CORAL REEF NEWS

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

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OF SPECIAL NOTE

NOAA Reports 16th U.S. Coral Reef Task Force Meeting a Success. The 16th biannual meeting of the U.S. Coral Reef Task Force (Task Force) was held the week of October 23 in St. Thomas, U.S. Virgin Islands. This meeting highlighted the ecological and management challenges facing Caribbean reefs, focusing on innovative solutions and partnership opportunities for achieving measurable management results in a region hard hit by decades of human and natural impacts.

Dr. Jeremy Jackson of Scripps Institution of Oceanography delivered a keynote address. Researchers from NOAA, the National Park Service and the United States Geological Survey presented the final results of a region-wide study of the impacts of last Fall's devastating coral bleaching event, the worst on record in the Caribbean. To aid managers in responding to future bleaching events, NOAA, the Great Barrier Reef Marine Park Authority, and partners released "A Reef Manager's Guide to Coral Bleaching."

On October 27, two diverse panels of experts from across sectors discussed the intersection of their activities in the Caribbean, examining opportunities for improving collaboration, as well as highlighting research findings, support services and funding sources available to Caribbean jurisdictions. In an effort to increase the number of public-private conservation partnerships, the Task Force passed a resolution launching a cooperative conservation partnership initiative. In addition, nine other resolutions were passed, including a resolution to begin the planning process for an International Year of the Reef in 2008.

Ten Task Force awards were presented to organizations or individuals for outstanding outreach and education, management, scientific advancement of knowledge, and community-level participation, including two special awards. Lastly, seven public workshops were hosted by the Task Force in association with the meeting to enhance information sharing and to present research findings and tools applicable to the Caribbean.

The meeting garnered unprecedented local, national and international attention, largely through a series of three *Associated Press* articles. Final counts include well over 300 articles in almost every state and ten countries. Read the full NOAA press release for more information on the meeting. See the attachment and the *Coral Reefs in the News* section of this issue for a sampling of media coverage from the meeting.

ANNOUNCEMENTS

SEFSC Releases Accomplishments Report. The Southeast Fisheries Science Center (SEFSC) released its Coral Reef report titled: "NOAA Coral Reef Conservation Program Southeast Fisheries Science Center Activities and Accomplishments 2004-2006." at the U.S. Coral Reef Task Force (Task Force) meeting in St. Thomas, U.S. Virgin Islands (USVI) the week of October 23. This report, which is produced for the general audience, describes the types of work the Center is engaged in, and the major accomplishments of its coral reef research and monitoring program. The report is dedicated to the memory of Dr. Dail Brown who was an ardent supporter of the SEFSC Coral Reef Research and Monitoring Program. The report will be posted on the SEFSC web site shortly.

Sustainable Reefs Program Reported as Huge Success. Through a generous gift from Jean-Michel Cousteau's Ocean Futures Society and Rock and Waterscape International, and in collaboration with the Coral Reef Advisory Group and the American Samoa Department of Education, Fagatele Bay National Marine Sanctuary launched the "Sustainable Reefs" program. The October 16-20 launch of the

program in American Samoa was the first introduction of the education initiative in the Pacific by Ocean Futures Society, who is planning to expand the program to other island nations and territories. The goal is to raise awareness among students and the public about the ecological and social value of coral reefs, and the threats they face.

New Digital Photographs Enhance Public Access to Reef Monitoring Database. The on-line Coral Reef Ecosystem Database, developed and managed by the National Centers for Coastal Ocean Science (NCCOS) and funded by the Coral Reef Conservation Program, now provides public access to new digital photographs from six years of coral reef field studies. Access to images of coral reef species and habitats, which were taken during studies in Puerto Rico and the U.S. Virgin Islands, facilitates a variety of coral reef research, management and educational opportunities. The images have been utilized by the research and management community, including the U.S. National Park Service, the University of Puerto Rico and NOAA. More than a thousand new digital photos were added to the searchable database — which includes images of fishes and invertebrates, hard and soft corals, mangroves, and seagrass beds and other benthic habitats — and may be downloaded. Click here to view the photo database.

CoRIS Added to Thomson Scientific *ISI Web of Knowledge*. Thomson Scientific has selected the CoRIS Web site for inclusion in *Current Web Contents*™, a selection of scholarly web sites complementing the journal coverage in *Current Contents Connect*®, the *Web of Science*®, and other *ISI Web of Knowledge*℠ applications. *ISI Web of Knowledge* is a dynamic, fully integrated research environment. The high-quality content available to researchers includes data from more than 22,000 journals, 23 million patents, 12,000 conference proceedings, 5,000 books, 2 million chemical structures, and 5,500 scholarly Web sites. Thomson Scientific Web Content Editors have visited the CoRIS site, reviewed it, developed a standardized descriptive record, written an abstract, and created a link from *ISI Web of Knowledge* to CoRIS. Click here to learn about the selection criteria.

UPDATES

Atlantic

Fish Stock Model to Improve Future Management of Reef Fish in Puerto Rico National Centers for Coastal Ocean Science (NCCOS)-sponsored scientists at the Coral Reef Ecosystems Studies – Caribbean Program (CRES) are fine tuning a coral reef fish stock assessment model that will ultimately improve managers' ability to assess stocks in a routine and timely manner. Researchers have focused their efforts on developing a method to interpret the status of exploited populations of reef fish relative to management objectives and stock productivity. By interpreting length-frequency distribution data, against theoretical distributions in the absence of fishing based on life-history parameters, scientists are able to compute sustainability benchmarks for the exploited reef fish community in Puerto Rico. The model is intended to enable the user to conduct management scenario evaluations of the multi-species reef fisheries in Puerto Rico, with particular emphasis of the region around La Parguera. The CRES Program was initiated in FY 2002 as a science-based, integrated approach to understand coral reef dynamics and processes, and to provide tools, ecosystem forecasts and options for coral reef management strategies in the Caribbean (Puerto Rico and U.S. Virgin Islands), and is a core component of NOAA's Coral Reef Conservation Program.

'Protecting Corals, Saving Ships' Quarterly Summary. The 'Protecting Corals Saving Ships' project aims to produce electronic navigation charts (ENC) that reflect the positions of corals, marine protected areas (MPAs), and other marine

information objects (MIO) in order to protect marine resources, improve safety of navigation and to provide important information for both resource managers and navigators. Recently, half of the ENCs necessary to cover the Florida Keys National Marine Sanctuaries (FKNMS) regulated areas were completed. Additionally, a compilation of the various International Hydrographic Organization (IHO) S-57 objects, feature attributes and attribute values, required to produce a Coral Reef/Marine Protected Areas (MPAs) MIO layer was completed and forwarded to relevant international standards committees and working groups for review. Three electronic charting system (ECS) software licenses have been obtained for a demonstration test bed and a number of vessels have already been contacted for demonstrations. These include a NOAA vessel, a Coast Guard cutter, a FKNMS Enforcement vessel, and a Cruise Lines ship. Due to budget constraints, the MPA Center was unable to develop the necessary documentation to demonstrate the linkages between the MPA Functional Classification system and the IUCN Habitat Classification approach. Nevertheless, the project will continue developing the necessary technical specifications, and maintain close working relationships with other countries that have expressed an interest in using a similar approach (e.g., Australia, Belize, Cuba, and Mexico). For more information, please visit the project's Website.

Pacific

New Species and New Records Discovered in the Northwestern Hawaiian Islands. A three-week coral reef expedition in the Northwestern Hawaiian Islands (NWHI) Marine National Monument returned to Honolulu on the NOAA Ship *Oscar Elton Sette* on October 28 with the discovery of over 100 new species records and a better understanding of marine diversity in the Hawaiian Archipelago. A multi-agency team of world-renowned taxonomists led by the Pacific Islands Fisheries Science Center's Coral Reef Ecosystem Division (PIFSC CRED) collected and photographed small marine organisms at French Frigate Shoals. This included crabs, corals, sea cucumbers, sea squirts, worms, sea stars, snails, clams, and algae that have never been recorded at that bank, and may also be new to science. Because the NWHI is the world's largest fully protected marine area, the marine scientists were extremely careful in following approved protocols that would minimize any disturbance to the environment. The expedition was part of the international Census of Marine Life's Census of Coral Reefs Ecosystems project which was funded by the Alfred P. Sloan Foundation and NOAA's Coral Reef Conservation Program. Information from this expedition is posted on the CReefs Website and at www.hawaiianatolls.org.

PIFSC and Partner Conduct BotCam Cruise in NWHI. A 20-day multibeam mapping and non-extractive bottom fish monitoring (BotCam) cruise was recently conducted aboard the NOAA Ship *Hi'ialakai* by scientists from NOAA's Pacific Islands Fisheries Science Center (PIFSC), Coral Reef Ecosystem Division and the University of Hawai`i. Operations were conducted at Brooks, St. Rogatien, and W. Nihoa Banks, which are part of the Northwestern Hawaiian Islands (NWHI) Marine National Monument. A total of approximately 885 sq. km was mapped, showing rough topography in 25 to 45 m water depths on three of these flat-topped banks. Thirty-six BotCam drops were successfully done in 70 to 400 m depths, documenting the presence and abundance of many species of bottom fish.

NOAA Cruise Tests LLS System. The NOAA Pacific Island Fisheries Science Center, in collaboration with partners from the NOAA Office of Ocean exploration, the Hawai`i Undersea Research Laboratory, and the Hawai`i Division of Aquatic Resources, embarked in early November on a cruise aboard the NOAA Ship *Hi'ialakai*. The purpose of the cruise, which ran from November 8-13, was to test the utility of Laser

Line Scan (LLS) instruments in coral reef ecosystems. The LLS system was deployed at a handful of sites off the coast of Maui, including beds of commercially-harvested black coral and a recently-discovered deep hard coral reef. An important nursery area and fishing site for commercially-harvested groundfish, deep algae beds, and a WWII aircraft wreck were also be surveyed. This wide range of targets will enable a thorough evaluation of LLS technology, and hopefully provide the impetus to design less expensive and more capable LLS systems to meet management and research needs in coral reef ecosystems.

International

NOAA Helps Launch the SocMon Guidelines for Coastal Managers of the Western Indian Ocean. NOAA helped to launch the Socioeconomic Monitoring Guidelines for Coastal Managers of the Western Indian Ocean (SocMon WIO Guidelines) at the International Tropical Marine Ecosystems Management Symposium held in Mexico in October. The SocMon WIO Guidelines contain a prioritized list of socioeconomic variables useful for coastal managers with simplified methods for data collection, archiving and analysis, as well as case studies. Designed to be used in the field, the Guidelines were produced in English and have been translated into Swahili, French, and Portuguese. The SocMon WIO Guidelines are the third set of regional guidelines in the SocMon Series; SocMon Caribbean and SocMon Southeast Asia were released in 2003 and SocMon Pacific is under development. Financial support to develop the Guidelines was provided by NOAA International Coral Grants, the International Coral Reef Initiative, and others. A pdf version of the Guidelines is available upon request.

National/Headquarters

NOAA and Australia Sign Second Memorandum of Agreement. NOAA has just signed the 2nd of two Memoranda of Agreement with the University of Queensland (UQ), Australia, to receive funds that support the World Bank/Global Environment Facility (WB/GEF) Coral Reef Targeted Research and Capacity Building for Management Project (CRTR) activities. Coral Reef Watch (CRW) will be conducting workshops to train coral reef managers on satellite tools for coral reef bleaching, and will be developing new remote sensing and online tools for managers based on user feedback. NOAA will be receiving a total of $400K over four years.

CRW Scientist Attends Collaborative Meeting with Australian Centre of Excellence. Coral Reef Watch (CRW) scientist Dr. Scott Heron attended the first public symposium of the Australian Research Council's Centre of Excellence for Coral Reef Studies held in Townsville, Australia on October 19-20. The Centre of Excellence is headquartered at James Cook University and has nodes at the University of Queensland and the Australian National University. The Centre is strongly affiliated with the Great Barrier Reef Marine Park Authority and the Australian Institute of Marine Science. Many of the Australia's pre-eminent reef ecosystem scientists are associated with the Centre of Excellence, studying disciplines which include environmental change, reef biodiversity, marine reserves, genetic and physiological processes, and social-ecological systems. Coral Reef Watch is collaborating with members of the Centre of Excellence in studying causes of coral disease outbreak.

Coral Reef Management Fellowship Program Holds Meeting in U.S. Virgin Islands. The Coral Reef Management Fellowship Program held their annual meeting in St. Croix, U.S. Virgin Islands (USVI), October 29 to 31. Fellows

traveled from their stations in American Samoa, Commonwealth of the Northern Mariana Islands, Guam, and Puerto Rico to present the status of their projects, provide feedback on the fellowship program, and share ideas with one another. Two new fellows, who began their fellowships in Hawai`i and the USVI immediately following the meeting, also attended. All the fellows participated in group discussion sessions, listened to presentations delivered by representatives from The Nature Conservancy, The Ocean Conservancy, and the USVI Coastal Zone Management (CZM) Program, participated in a field trip to the East End Marine Park, and attended a training session on group facilitation.

CRW Scientist Serves as Panelist at Government Accountability Office Workshop. Dr. Mark Eakin, coordinator of NOAA's Coral Reef Watch (CRW), served as a member of a U.S. Government Accountability Office (GAO) Expert Panel for its Workshop on Climate Change and Federal Lands, held at the National Academy of Sciences (NAS) during November 2-3. The GAO contracted with the NAS to convene the panel to respond to a request from Senators McCain and Kerry. Dr. Eakin served on the Oceans and Coasts Panel as an expert on climate impacts on corals and other marine ecosystems. The two-day workshop focused on the vulnerability of ecosystems and associated economies to climate change, and implications for federal land management policies and practices. More than 25 scientists from government, academia, and think tanks have been selected to serve on the panel and produce a report on the workshop's results. NOAA activities in coral reef bleaching, ocean acidification, and satellite observations of oceans, land and atmosphere were highlighted as activities vital to managing Federal lands in light of climate change. As a final discussion of needs, the GAO requested input on items that should be highlighted for potential Legislative action. Two items raised included greater support for US civilian satellite systems and the development of an interagency task force on the impact of climate change on Federal lands and waters that would be modeled after the U.S. Coral Reef Task Force.

NOAA Participates in World Bank Panel. NOAA accepted an invitation to participate in a panel at the World Bank November 7, 2006 on: "Climate Impacts and Adaptation Responses in Latin America." Corals were one of five areas highlighted in this half-day session hosted by Walter Vergara, Lead Engineer-Latin America Environment Department. Coral Reef Watch's Dr. Al Strong together with Dr. Billy Causey, Regional Director of the Southeast Region, National Marine Sanctuary Program, presented talks on corals and climate and participated in their panel discussion that followed. Some 50 World Bank staff attended these presentations, and a wider audience participated via the internet.

CRW Scientists Help Lead Training Workshop for GCFI: Coral Reef Watch (CRW) scientists, Dr. Mark Eakin and Tyler Christensen, co-organized and participated in a Caribbean Connectivity workshop on November 11th in Belize City, Belize. The full-day remote sensing training session was hosted by the Gulf and Caribbean Fisheries Institute, as part of their 59th annual conference. The curriculum focused on showing resource managers and scientists how satellite remote sensing works, and presenting some applications for remote sensing information. CRW presented a talk on how satellites measure sea surface temperature, and then led a hands-on exercise to train the participants on how to use the CRW data product suite to locate areas at risk for coral bleaching. The workshop was co-organized with Drs. Frank Muller-Karger, Chris Moses, and Ms. Inia Soto, all from the University of South Florida's Institute for Marine Remote Sensing. It also included speakers from NOAA's Atlantic Oceanographic and Meteorological Laboratory (AOML) and the NASA Sistema Regional de Visualizacion y Monitoreo para Mesoamerica (SERVIR) program. The audience comprised

over 30 scientists and managers from eight countries throughout the Caribbean and Gulf of Mexico regions, representing government agencies, marine parks, private consultants, universities, and NGOs.

CRW Participates in Community Workshops in Florida Keys. Coral Reef Watch (CRW) scientist, Jessica Morgan, attended two workshops on climate change and coral reefs in Key Largo, FL, November 14-15. The World Wildlife Fund sponsored a stakeholder meeting attended by over 20 teachers, residents, volunteers, managers, and scientists. CRW data from the 2005 Caribbean bleaching event were used to illustrate trends in thermal stress in the region over the past 20 years. At the 2nd Community Workshop of the Florida Reef Resilience Program (FRRP), Ms. Morgan presented a two-part talk on "The Basics of Coral Bleaching," and an introduction to the newly published *A Reef Manager's Guide to Bleaching*. Both talks were well received by a diverse audience of over 60 stakeholders, managers, and scientists.

CRW team attends World Bank working group meeting in The Philippines. Coral Reef Watch scientists Mark Eakin, William Skirving, Al Strong, and Tyler Christensen attended the annual meeting of the World Bank/GEF Coral Reef Targeted Research (CRTR) program's Remote Sensing Working Group (RSWG) in Puerto Galera, Philippines, November 14-17. Each CRTR Working Group holds an annual meeting to check in on the progress to date and coordinate activities for 2007 and beyond. The CRW team gave a presentation on recent activities, the Caribbean 2005 bleaching event, and future work planned under the project. Eleven members of the RSWG were present, from the U.S., England, Canada, the Philippines, Australia, and Colombia. In addition, 20 researchers and students from local universities were in attendance to present their recent coral reef remote sensing work and discuss potential collaborations.

New Products in CoRIS. See table on Page 11.

Publications

Williams, D.E., Miller, M.W., Kramer, K.L. 2006. Demographic Monitoring Protocols for Threatened Caribbean *Acropora* spp. Corals. NOAA Technical Memorandum NMFS-SEFSC-543. 91pp.

CORAL REEFS IN THE NEWS

Please see the attached document for transcripts of additional articles that resulted from the October Task Force meeting in the USVI.

Articles Mentioning NOAA

"Coral Reef Rescue" – November 17, 2006 (*TIME for Kids*, NY). "A new action plan brings hope to an ailing underwater world."

"Damage To Coral Reefs Threatens Economies" – November 12, 2006 (*Associated Press* in *Monterey Herald*, FL and approx. 46 other sources). "A rapid decline in the world's coral reefs could damage national economies that rely on underwater sea life for tourism revenue, researchers said…'You cannot separate the environment and the economy. They are one,' said Billy Causey, a regional director of the U.S. National Oceanic and Atmospheric Administration's marine sanctuaries."

"Coral is in Danger" – November 12, 2006 (*Associated Press* on *www.indystar.com*, IN and approx. 34 other sources). "Researchers fear more than half the world's coral reefs could die in less than 25 years and say global warming may at least be partly to blame. Sea temperatures are rising, weakening the reefs' resistance to increased pollutants, such as runoff from construction sites and toxins from boat paints. The fragile reefs are hosts to countless marine plants and animals."

"U.S. Coral Reef Task Force Addresses Caribbean Coral Reef Management Challenges, Launches Planning For 2008 International Year Of The Reef" – November 8, 2006 (NOAA press release in *NOAA Magazine*, US). "….The 16th biannual meeting of the Task Force highlighted the ecological and management challenges facing Caribbean reefs, focusing on innovative solutions and partnership opportunities for achieving measurable results in a region hard hit by decades of human and natural impacts. Two-thirds of Caribbean reefs are considered significantly degraded by overfishing, pollution, diseases, bleaching and other impacts."

"Reefs at Risk" – November 2, 20006 (*Scholastic News Online*, US). "….According to scientists, more than half of the world's coral reefs are at risk of vanishing in the next 25 years. Rising temperatures throughout the world are a major threat to the survival of the reefs and their inhabitants."

"Scientists: World's Coral Reefs In Danger" – October 31, 2006 (*Associated Press* in *The Hinesberg Journal*, Canada and approx. 60 other sources). "….The researchers said global warming was a potential cause of the abnormally high sea temperatures but was not the only suspect in the reefs' demise. 'Climate change is an important factor that is influencing coral reefs worldwide,' said Mark Eakin, director of NOAA's Coral Reef Watch. 'It adds to the other problems that we are having.'"

Other articles

"Local Reefs Hang on to Health Despite World Crisis" – November 25, 2006 (*Cayman Net News*, Cayman Islands). "….'The reefs around the Cayman Islands are among the most important in the world, because they provide an almost ideal environment in which to study what's happening right now in terms of climate changes, coral disease management, and the future of sustainability right here,' said Dr Carrie Manfrino from the CCMI."

"Coral Reefs Susceptibility to Violent Ocean Activity Mapped" – November 24, 2006 (*Zee News*, India). "….'Coral reef experts have long had a general sense of which coral shapes are more vulnerable during storms than others. However, to really predict how these events impact the dynamics of coral reefs we needed a way to quantify these vulnerabilities,' said first author Joshua Madin, a scientist with the National Center for Ecological Analysis and Synthesis (NCEAS) at the University of California, Santa Barbara in his study in the journal *Nature*."

"Rigs to Reef: Are Oil Platforms Key To Healthy Central Coast Marine Life?" – November 23, 2006 (*www.ksby.com*, CA). "….When these 35,000 ton steel structures were dropped into the Santa Barbara Channel decades ago, the oil companies agreed to completely remove them once they stopped pumping oil. But now, some are questioning whether that should happen, given the abundance of marine life found here."

"Endangered Sea Turtles and Coral Reefs of the Gulf" – November 23,2006 (*AME Info*, United Arab Emirates). "The Gulf provides habitat for five of the planet's seven marine turtle species. It also supports coral reefs, West Asia accounting for eight per cent of the world's mapped reefs."

"Sustainable Marine Workshop Held" – November 23, 2006 (*The San Pedro Sun*, Belize). "Dive/tour operators managers, guides, boat captains, dive instructors as well as members of the community attended the first ever workshop on Sustainable Marine Recreation. The two day free training provided by the Coral Reef Alliance

and the partners of the ICRAN Mesoamerican Reef Alliance project concentrated on their project 'Protect your business by protecting your reef.'"

"Coral Reefs are Increasingly Vulnerable to Angry Oceans" – November 22, 2006 (*www.physorg.com*, US). "The increasing violence of storms associated with global climate change, as well as future tsunamis, will have major effects on coral reefs, according to a paper published this week in the international scientific journal Nature. Shape and size of the corals are key variables, according to the authors."

"UW Helps Rebuild Sri Lanka's Economy" – November 22, 2006 (*Waterloo Chronicle*, Canada). "The University of Waterloo and three other Canadian universities will work collaboratively with local partners to restore the economy and environment of six villages in Sri Lanka devastated by the tsunami of December 2004."

"For Healthy Coral: El Niño, Bad; Atmospheric Aerosols, Good" – November 21, 2006 (*Scientific American*, US). "Whether Caribbean coral reefs retain their vibrant colors or turn a deathly white depends in part on how much dust there is in the atmosphere."

"Fort Pierce Company And Its President Plead Guilty and are Sentenced for Illegally Importing Coral Rock Into the United States" – November 8, 2006 (Department of Justice press release on *http://www.usdoj.gov/*). "…Carib Sea, Inc., a Fort Pierce-based aquarium supply company, and Richard Greenfield, 46, of Fort Pierce, pled guilty and were sentenced in federal District Court on November 7, 2006, in connection with the illegal importation of more than 42,000 pounds of protected coral rock from Haiti to the United States. Both defendants were charged in connection with a shipment that arrived in March 2006…."

"Islanders, Firm At Odds On Oil Spill Claims" – November 17, 2006 (*Fiji Times*, Fiji). "Oil which leaked from three fishing boats stuck on a reef near Beqa last week damaged coral and marine environment."

"Coral Bleaching Will Hit The World's Poor" – November 17, 2006 (IUCN press release on *www.iucn.org*). "Climate change puts at risk the livelihoods of at least 100 million people, mostly in developing countries, who depend on coral reef goods and services. The bleaching of corals due to climate change may result in global economic losses of up to US$ 104.8 billion over the next 50 years, or 0.23 percent of current global GDP, the World Conservation Union (IUCN) said today at the United Nations conference on climate change."

"Undoing the Damage Underwater" – November 16, 2006 (*Bangkok Post*, Thailand). "Joining hands with experts, volunteer divers are helping revive marine life and rehabilitate coral reef damaged by rising tourist activity in the Andaman Sea. Late last month, over one hundred divers from Bangkok jumped off boats off Phi Phi Island and descended to the seabed to lay down concrete blocks, to which they tied iron bars and affixed fragments of coral grown in nurseries."

"Keppel Island Coral Reefs 'Completely' Dead" – November 15, 2006 (*The Australian*, Australia). "Hard coral on a large network of shallow reefs near Keppel Island have been completely killed off, Central Queensland University researchers confirmed yesterday."

"Low Tides, Heavy Rain Causing Coral Bleaching" – November 15, 2006 (*ABC News* on *www.abc.net.au*, Australia). "A Central Queensland University researcher says low tides and recent heavy rain have caused coral bleaching off the Capricorn coast."

"Top Honour For The Scuba-Diving Professor" – November 15, 2006 (*Bedford Today*, United Kingdom, and approx. 1 other source). "A scuba-diving professor at the University of Bedfordshire has been honoured with a top international award worth £6,000 to help him continue his research into climate change by studying the world's coral reefs."

"Deep-Sea Trawling Destroying Underwater Mountains" – November 15, 2006 (*Reuters*, United Kingdom and approx. 62 other sources). "Deep-sea trawling is destroying underwater mountains teeming with marine life and causing irreparable damage to ecosystems, scientists warned on Wednesday. Most of the underwater volcanic mountains, or seamounts, which contain deep-sea corals and are home to thousands of marine species, are in unregulated areas."

"Scientists Call For Deep-Sea Trawling Ban" – December 15, 2006 (*The Guardian*, United Kingdom). "Scientists have called for a worldwide ban on deep-sea trawling following a major UN-backed report on the damage it is causing to vulnerable deep-sea corals."

"UN Report: Trawler Fishing Industry Damaging Ecosystems" – November 14, 2006 (*Associated Press* on *http://cnews.canoe.ca*, Canada). "Fishermen who rake giant nets across the ocean floor to maximize their catch are destroying unique and unexplored ecological systems, according to a UN draft environmental report made public Wednesday. Trawlers' nets shatter coral and churn up clouds of sediment that smother sea life, the report said….The worst damage often occurs to underwater mountains that are home to thousands of species of coral and fish, some still unidentified by scientists, the report said."

"Underwater Wonder: Hawaiian Islands Marine National Monument" – November 14, 2006 (*ABC News* on *http://abcnes.go.com*, US). "Northwestern Hawaiian Islands Marine National Monument is a water world that may be the last of its kind….'The diversity is absolutely endless, and so endless that we will see new species discovered for decades to come,' said Jean-Michel Cousteau, president of the Ocean Futures Society."

"Reefs Hold Answers to Medical Problems" – November 11, 2006 (*Cayman Net News*, Cayman Islands). "….experts are discovering that some of the microscopic life unique to coral reefs could help in the search for drugs to cure numerous diseases. A protein molecule that researchers at CCMI's Little Cayman Research Center have recently discovered and named 'Mermaid,' actually lowers the rate of infection against HIV in cell cultures, said Dr. Carrie Manfrino, president of CCMI."

"British Environmental Group Teams With Shangrila On Reef Preservation" – November 10, 2006 (*www.bayanihan.org*, Philippines). "A British environmental conservation group will study coral reefs around two Shangrila Hotel properties in the Visayas in a "green" partnership program facilitated by the British embassy."

"Coral Reef Ecosystems Speech. Dr Jimmie Rodgers" – November 7, 2006 (Secretariat of the Pacific Community press release in *Scoop Independent News*, New Zealand). Coral Reef Ecosystem Biodiversity Forum Closing Remarks by Dr. Jimmie Rodgers, Director-General, Secretariat of the Pacific Community (SPC).

"Endangered Coral Reefs the 'Wealth of the Impoverished'" – November 6, 2006 (*German Press Agency* on *http.rawstory.com*, KS). "….Scientists say climate change has made coral recovery from other menaces such as pollution and unregulated fishing more difficult. With officials at the UN climate change conference in

Nairobi this week pushing for a focus on developing countries, scientists and researchers have also warned that coral reef protection is crucial for the development of impoverished countries."

"Coral Reefs Can Be Saved" –November 06, 2006 (*Daily Times,* Pakistan). "Measures to control overfishing and pollution and to protect mangroves would counter the destruction of coral reefs by climate change, the World Conservation Union (IUCN) said."

"Campaign Gets Underway to Educate Public on Reef Protection" – November 4, 2006 (*Cayman Net News,* Cayman Islands). "Researchers at the Central Caribbean Marine Institute (CCMI) are using the forthcoming holiday season to help them promote coral reef protection. A new programme, 'Twelve Reasons Why Healthy Coral Reefs Are Important,' is designed to go in step with the twelve days of Christmas and the gifts that were given."

"New Strategy to Help Corals and Mangroves Survive Climate Change" – October 31, 2006 (World Conservation Union press release on *www.iucn.org*). "With climate change threatening tropical marine ecosystems, scientists of the World Conservation Union (IUCN) and The Nature Conservancy are spelling out the survival strategy for coral reefs and mangroves in new publications launched today."

"CNMI Shares Coral Management Experience In Mexico" – October 23, 2006 (*Saipan Tribune,* Commonwealth of the Northern Mariana Islands). "Three representatives from the CNMI attended the 3rd International Tropical Marine Ecosystems Management Symposium held recently in Cozumel, Mexico.

New Products in CoRIS.

Product Name	Description
CRED Rapid Ecological Asessment of Corals main Hawaiian Islands 2005 and 2006	Belt transects along 2 consecutively-placed, 25m transect lines were surveyed as part of Rapid Ecological Assessments conducted at 17 sites at Hawaii Island in the Main Hawaiian Islands in August 2006 from the NOAA vessel Hi'ialakai (HII06-10).
Link: http://www.pifsc.noaa.gov/cred/coral.php *Metadata Link: http://www.coris.noaa.gov/metadata/records/html/cred_rea_corals_lanai_2006.html for example*	
CRED Optical Validation Data to Support Benthic Habitat Mapping NWHI 2001-2005	Optical validation data were collected using a Tethered Optical Assessment Device (TOAD), an underwater sled equipped with an underwater digital video camera and lights. Data were collected at the Northwestern Hawaiian Islands, to support Benthic Habitat Mapping efforts. These optical observations will be correlated with bathymetry and acoustic backscatter imagery to develop benthic habitat maps.
Link: http://www.soest.hawaii.edu/pibhmc/ *Metadata Link: http://www.coris.noaa.gov/metadata/records/html/cred_toad_kure_2004.html for example.*	

UPCOMING EVENTS

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

November 2006

28 – 30: **Meso-scale Effects of Coral Bleaching Workshop.** Zanzibar, Tanzania. Abstracts due August 31. Contact the workshop leaders, Dr. Tim McClanahan (Wildlife Conservation Society) and Dr. Mebrahtu Ateweberhan (Wildlife Conservation Society), for registration details.

December 2006

9 – 13: **Restoring America's Estuaries (RAE) – Forging the National Imperative.** New Orleans, LA.
11 – 15: **AGU 2006 Fall Meeting.** San Francisco, CA.

January 2007

15 – 20: **International Pacific Marine Educators Conference**. Suva, Fiji.
29 – 31: **Our Sea of Islands – A Regional Forum for Oceania on Marine Managed Areas and World Heritage.** Honolulu, HI.

Questions, comments?

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

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