

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

IN THIS ISSUE:

OF SPECIAL NOTE (PAGE 2)

- **First Comprehensive Marine Debris Survey in Main Hawaiian Islands Initiated.**
- **NOAA Leads Research Mission of U.S. Virgin Islands' Underwater Habitats.**

ANNOUNCEMENTS (PAGE 2)

- **CRES Scientist Awarded the Distinguished Pew Fellowship.**
- **CRW Coordinator Presents Coral Bleaching Seminar at the Climate Policy Center.**
- **WESPAC Votes on New Fishing Regulations for the Hawaiian Islands.**
- **Launch of Curriculum on Remote Sensing and Coral Reefs.**
- **'Status of Coral Reefs in Tsunami Affected Countries: 2005' Report Released.**
- **Marine Protected Areas Federal Advisory Committee Meeting Announced.**

UPDATES (PAGE 4)

Atlantic

- **NCCOS Assessment Supports Tortugas Ecological Reserve Design**
- **Lionfish Maturing More Rapidly Than Some Native Reef Fishes.**
- **NCCOS Working to Link Contaminant Stressors to Coral Health in Puerto Rico.**
- **CCRI Hosts Coral Reef Symposium in Puerto Rico.**
- **CRCP Scientist Participates in Marine Ornamentals 2006.**

Pacific

- **PIFSC Coral Reef Ecosystem Division Completes American Samoa Portion of its Biennial Assessment Cruise.**

International

- **Coral Reef Climate Change Studies to Begin in Discovery Bay, Jamaica.**
- **CRW Coordinator Reviews Caribbean Bleaching Response at Convention on Biodiversity.**

National/Headquarters

- **CRW Coordinator Featured on *All Things Considered*.**
- **Record Program Participation in the 2006 Ocean Science Meeting**
- **Recent Additions to CoRIS.**

CORAL REEFS IN THE NEWS (PAGE 9)

UPCOMING EVENTS (PAGE 19)



OF SPECIAL NOTE

First Comprehensive Marine Debris Survey in Main Hawaiian Islands Initiated.

VADM Conrad Lautenbacher, accompanied by representatives from Senator Daniel K. Inouye's office and the Pacific Islands Fisheries Science Center (PIFSC), held a news conference at Honolulu Harbor on Wednesday, February 22 to announce the launch of a project to locate and remove marine debris in the main Hawaiian Islands. The Coral Reef Ecosystem Division (CRED) Marine Debris Team used helicopters to identify and map derelict fishing gear and other marine debris on Kaua'i and the Big Island of Hawai'i. If funds allow, the project will be extended to the remaining islands as well. Geospatial Information System (GIS) maps will help local management agencies prioritize initial removal sites to target high impact areas. Marine Debris Program staff members participated in the press conference and were interviewed for extensive television and newspaper coverage. To read the NOAA press release on this program, visit:

<http://www.noaanews.noaa.gov/stories2006/s2582.htm>. For more information visit the NOAA Marine Debris Program at <http://marinedebris.noaa.gov/>.

NOAA Leads Research Mission of U.S. Virgin Islands' Underwater Habitats.

NOAA and the National Park Service (NPS) completed a scientific research mission on board the NOAA ship *Nancy Foster* on April 2; the mission began on March 21. The joint mission explored and characterized near shore habitats (from five to 1,000 meters) within waters in the U.S. Virgin Islands (USVI) and Puerto Rico using a suite of remote sensing tools. Priority areas for 2006 include NPS's Buck Island Reef National Monument and important marine resource areas along the southwestern portion of Puerto Rico. This marks the third year of an ongoing research project by the biogeography team from NOAA's

Center for Monitoring and Assessment. Data from the mission will be combined with biological fish census data collected from 2000-2006 to produce maps of the sea floor topography and habitats. The mission will also help NOAA meet its commitment to the U.S. Coral Reef Task Force to map moderate depth coral reef ecosystems, and provide new information to update nautical charts covering the U.S. Virgin Islands. The mission results will help guide natural resource management in federal territorial waters of Puerto Rico and the USVI. Results from last year's survey have already resulted in several resource management changes, including the recently announced decision of the Caribbean Fisheries Management Council to ban fishing at the Grammanik Bank to protect the spawning grounds of several species of threatened fish. To view photos from this mission or read daily Web casts from the *Nancy Foster*, visit:

http://ccma.nos.noaa.gov/products/biogeography/usvi_nps_2006/. Read the full NOAA press release at: <http://www.publicaffairs.noaa.gov/releases2006/mar06/noaa06-r420.html>.

ANNOUNCEMENTS

CRES Scientist Awarded the Distinguished Pew Fellowship. In early February the Pew Institute for Ocean Science (PIOS) released the recipients of the 2006 Pew Fellows in Marine Conservation. Dr. Bob Richmond, lead principal investigator (PI) of NOAA's Center for Sponsored Coastal Ocean Research (CSCOR) Coral Reef Ecosystem Studies (CRES) Micronesia Program and Co-PI of the Hawai'i Coral Reef Initiative (HCRI) Research Program, was one of five recipients awarded \$150,000 to conduct a three-year conservation project. According to PIOS, the award "...recognizes innovators from around the world who are finding solutions for ocean protection and preservation." The CRES Micronesia program, currently in its third year,

has allowed researchers to answer critical questions on biological responses with a focus on Guam's coral reefs. This has enabled them to develop scientifically based policy recommendations. The CRES Micronesia Program (<http://www.cop.noaa.gov/ecosystems/coralreefs/current/cres-micro-factsheet-cr.html>) is administered by the National Centers for Coastal Ocean Science (NCCOS) and is a core component of the CRCP. Learn more about HCRI at <http://www.hawaii.edu/ssri/hcri/>. For more information on the award, please visit <http://starbulletin.com/2006/02/01/news/story09.html> and <http://www.pewmarine.org/pewFellowsDirectoryTemplate.php?PEWSerialInt=5169>.

CRW Coordinator Presents Coral Bleaching Seminar at the Climate Policy Center.

Beginning in the summer of 2005, widespread coral bleaching was reported in the Caribbean. Coral bleaching was severe, exceeding 90% at many sites, and extended across most of the wider Caribbean region. In a November 2005 resolution, the U.S. Coral Reef Task Force (Task Force) called for its member agencies to establish an interagency group to coordinate national efforts in a comprehensive response to the bleaching event. Coral Reef Watch (CRW), a core component of the CRCP, led the interagency Federal and international effort to document and assess the extent and impacts of the Caribbean bleaching event, one of the key tasks set forth by the Task Force resolution. The seminar, entitled 'Record-Breaking Coral Bleaching in the Caribbean: The 2005 Bleaching Event,' was presented at the Climate Policy Center (CPC) office in downtown D.C. on March 31. Dr. Mark Eakin, Coordinator of CRW, examined how NOAA forecast this event and, as a result, how researchers in over 20 countries collaborated to document it. The seminar was well received and attendance exceeded the room's capacity. The audience of over 30 people included

representatives from Federal agencies and NGOs, Congressional staffers and the press. To learn more about CPC, visit their website at <http://www.cpc-inc.org/index.php>. Visit <http://coralreefwatch.noaa.gov/caribbean2005/> to learn more about the 2005 Caribbean bleaching event.

WESPAC Votes on New Fishing Regulations for the Hawaiian Islands. The Western Pacific Regional Management Council (WESPAC), at the conclusion of its four-day meeting in Honolulu on March 16, voted to amend its existing fishery management plans (FMPs). The amendments will allow only limited bottomfish and pelagic fishing in federal waters three to 50 miles offshore of the Northwestern Hawaiian Islands (NWHI). Fishing for lobster, precious coral and coral reef fish would be prohibited. A no-fishing marine protected area (MPA) would be established around French Frigate Shoals and in waters surrounding Kure and Midway Atolls. An exception would be made for recreational fishing in waters around Midway Atoll, which is managed by the U.S. Fish and Wildlife Service. The Council also voted to close the Main Hawaiian Islands (MHI) to bottomfish fishing between May 1 and August 31 annually in an effort to end bottomfish overfishing. These amended plans will be forwarded to the Secretary of Commerce for final approval. For full details on the amended FMPs, as well as other recommendations and press releases to result from the meeting, visit <http://www.wpcouncil.org/>.

Launch of Curriculum on Remote Sensing and Coral Reefs. During the summer of 2004, fifth grade teacher Margaret 'Peggy' Koenig created a curriculum unit for NOAA Coral Reef Watch (CRW). This set of seven lesson plans focuses on remote sensing and its application to monitoring coral reefs, and was designed for advanced fourth to sixth grade students or middle school classrooms. While the curriculum was designed to be taught in sequence, many of the lessons can

stand alone as individual classroom activities. The unit was first presented at the national Satellites and Education Conference in 2004. Now, the curriculum is available for a national audience: CRW has made PDF versions of the lesson plans available on its website at http://coralreefwatch.noaa.gov/satellite/education/reef_remote_sensing.html. The curriculum was developed as part of the Earth/Space Science Internship Program, funded by the Maryland Space Grant Consortium in collaboration with Johns Hopkins University. Ms. Koenig was hosted by the Center for Satellite Applications and Research (STAR) office of the National Environmental Satellite, Data and Information Service (NESDIS), with coordination from the CRCP.

‘Status of Coral Reefs in Tsunami Affected Countries: 2005’ Report Released. Following the December 2004 Indian Ocean tsunamis, the International Coral Reef Initiative (ICRI) asked its operational networks, the Global Coral Reef Monitoring Network (GCRMN), Reef Check, ReefBase, and the Coral Reef Degradation in the Indian Ocean (CORDIO) program, to compile a report on the post-tsunami status of coral reefs in affected countries. Joining this effort were: The U.S. Department of State; NOAA; the Australian Agency for International Development (AusAID); the United Nations Environment Programme (UNEP); the Intergovernmental Oceanographic Commission of the United Nations Environmental, Scientific and Cultural Organization (IOC/UNESCO); the World Conservation Union (IUCN); the World Wildlife Fund (WWF); the Cooperative Research Centre for the Great Barrier Reef World Heritage Area (CRC Reef); the Government of Japan (Ministry of Environment); and the International Ocean Initiative. The report was supported in part by NOAA and the U.S. Department of State, and NOAA funded its translation into Thai. The recently released report reveals that many of the coral reef ecosystems in the region were surprisingly resilient to the effects

of the tsunamis and in some areas protected other marine systems from the ravages of the tsunamis. In addition to providing information on the effects of the tsunamis, the report seeks to raise awareness of the critical role that coastal resources play in the lives of many people in the impacted areas and offers recommendations on how to mitigate similar disasters in the future, including the need for an early warning system and greater attention to sound coastal and fisheries management. Dr. Clive Wilkinson, Coordinator for GCRMN, gave a presentation about the report on February 28th at the Silver Spring NOAA campus and on March 1st at the Smithsonian S. Dillon Ripley Center. Download the full report at: <http://www.aims.gov.au/pages/research/coral-bleaching/scr-tac2005/index.html>.

Marine Protected Areas Federal Advisory Committee Meeting Announced. The Marine Protected Areas (MPAs) Federal Advisory Committee will hold their next meeting from April 24-26, 2006, in Corpus Christi, Texas. The three-day meeting will focus on electing a new chair and vice-chair, discussing the new charge to the committee, and forming new subcommittees. A series of panel sessions are planned, with topics including MPA management in the Gulf of Mexico, cultural resource management, and ecosystem approaches to management. Two public comment periods are also scheduled. The committee submitted their first set of recommendations about creating a national system of MPAs to the Departments of Commerce and the Interior in June 2005. For more information, go to http://mpa.gov/fac/fac_meetings.html.

UPDATES

Atlantic

NCCOS Assessment Supports Tortugas Ecological Reserve Design. Scientists from the National Centers for Coastal Ocean Science (NCCOS) recently published preliminary findings that support management actions to include a large

area and diversity of habitats within the Tortugas Ecological Reserve's marine protected areas (MPA). Currently in the sixth year of an ongoing study to assess the ecological impact of the MPA, NCCOS scientists have documented increases in fish abundance in protected habitats within the Reserve, compared to areas that remain unprotected. Their findings support the protection of habitats adjacent to reef systems because primary production from soft bottom habitats provides the base for the food web on which exploited reef species in the Tortugas depend. To learn more about the research involved, visit: http://www.cfhr.noaa.gov/ecosystems/coralreefs/tortugas_coral_reefs

Lionfish Maturing More Rapidly Than Some Native Reef Fishes. Lionfish (*Pterois volitans*) are native to the sub-tropical and tropical regions of the Red Sea and the South Pacific and Indian Oceans. Since August 2000, lionfish have been found along the southeastern coast of the United States from Florida to Cape Hatteras, North Carolina. To learn more about this problem, visit <http://shrimp.ccfhrb.noaa.gov/lionfish/>. As part of their research on this invasive species, the National Centers for Coastal Ocean Science (NCCOS) have determined that lionfish age of maturity can be less than two years. This life history parameter promotes rapid regeneration and population growth relative to some native reef fishes and is important for NCCOS lionfish modeling efforts to forecast lionfish population growth potential in the western Atlantic. Measurements of juvenile lionfish growth in the laboratory were accomplished by an undergraduate intern from the University of North Carolina at Chapel Hill.

NCCOS Working to Link Contaminant Stressors to Coral Health in Puerto Rico. Scientists from the National Centers for Coastal Ocean Science (NCCOS) have developed an assessment framework to help determine linkages between contaminant stressors and coral health;

the framework is being applied in a pilot project in the coastal ecosystems of southwest Puerto Rico. It merges data on chemical contamination in water, sediments and coral tissue; land use; marine biogeography; coral biomarkers; and coral pathogens. The Local Action Strategies (LAS) developed for Puerto Rico identify land-based sources of pollution as a focus area for priority action and the NCCOS project directly addresses the LAS. This work was presented in a talk titled 'Assessing Contaminants and Coral Health in Southwestern Puerto Rico: Towards an Understanding of Nonpoint Source Pollution Impacts on Coral Reefs' given to attendees of the Caribbean Coral Reef Institute's Coral Reef Symposium in San Juan, Puerto Rico. Attendees were interested to learn about the project, particularly the chemical contaminant analysis and the assessment framework. To learn more about the pilot project, visit: <http://www8.nos.noaa.gov/nccos/npe/projectdetail.aspx?id=514&fy=2005>.

CCRI Hosts Coral Reef Symposium in Puerto Rico. In mid-February, the Caribbean Coral Reef Institute (CCRI) hosted its first Coral Reef Symposium to present the latest scientific research results on the condition of reefs in Puerto Rico, and to build consensus for new and innovative management practices to be adopted as public policy. The Symposium, the first of its kind in Puerto Rico in over eight years, gathered more than 100 representatives of universities; local, state and federal agencies; and non-governmental organizations (NGOs). Participants included the President of the University of Puerto Rico (UPR) and 23 representatives from the Puerto Rico Department of Natural and Environmental Resources, including the Administrator of Natural Resources who gave welcoming remarks. Highlights among 19 presentations involving 38 researchers included reports on the impact of fishing on species of aquarium fish and invertebrates, strategies for the development of MPAs, spawning fish aggregations, habitat

mapping, sedimentation, contaminant stressors and coral health, new observations on deep reefs, factors affecting the survival of new coral and gorgonian colonies, and the existence of algae that kill and overgrow fire coral by secreting toxins. The CCRI is a cooperative program between NOAA and the UPR. Its mission is to sponsor research to address management needs of Puerto Rico's coastal reefs and to incorporate research results into management practice. CCRI is administered by the National Centers for Coastal Ocean Science (NCCOS) and is a core component of the Coral Reef Conservation Program. For more information, please visit <http://www.cop.noaa.gov/ecosystems/coralreefs/features/fs-2006-03-01-cr.html>.

CRCP Scientist Participates in Marine Ornamentals 2006. Marine Ornamentals 2006, the fourth international symposium on collection, culture, and conservation of marine ornamentals, brought together about 75 industry representatives, non-government conservation groups, academia and government representatives. This diverse group discussed advances made in conservation and management, invertebrate and fish aquaculture and health issues. The symposium ran from February 14-16 in Las Vegas, Nevada. Marine Ornamentals 2006 included a sustainability session focused on collection and transport issues, resource management, certification, and novel partnerships to help reform the industry. The session included a full day of presentations and a panel discussion that highlighted 1) net training for fishermen as an alternative to cyanide fishing; 2) Marine Protected Area (MPA) networks; 3) strategies to reduce mortality during collection, holding and transport; 4) resource monitoring, habitat characterization, and community-based management approaches to attain sustainability; 5) diversified community, business, government and science partnerships; 6) hands-on educational and technical training efforts; and 7) the role of community-based aquaculture and mariculture in

addressing diminishing populations of ornamental species and destructive collection practices. Dr. Andy Bruckner of NOAA Fisheries both presented and acted as a panel member for this session. For background information on the symposium, visit: <http://www.hawaiiacquaculture.org/marineornamentals06.html>.

Pacific

PIFSC Coral Reef Ecosystem Division Completes American Samoa Portion of its Biennial Assessment Cruise. On March 10, 2006, the Pacific Islands Fisheries Science Center (PIFSC), Coral Reef Ecosystem Division (CRED) completed its third biennial assessment/monitoring cruise around the seven American Samoan Islands aboard the NOAA ship *Hi'ialakai*. The expedition was part of the biennial monitoring effort in the region by CRED, and is a collaborative study between NOAA scientists, local scientists and managers, the U.S. Fish and Wildlife Service, and other key partners. During the 26 days at sea, 22 scientists collectively revisited over 60 fish and benthic (e.g. coral, algae and macro-invertebrate) Rapid Ecological Assessment (REA) survey sites, completed over 200 km of towed-diver large fish and benthic habitat surveys, placed or exchanged over 30 oceanographic moorings, and conducted numerous deep and shallow water sample profiles (e.g. temperature, chlorophyll, nutrients and dissolved inorganic carbon). In addition, multibeam shallow-deep mappings surveys were completed around most of these islands, and some nearby seamounts, to complete detailed habitat bathymetry of previous surveys. One interesting finding was that ecosystem disturbance has persisted for over 12 years at the site of a long-line vessel grounding on Rose Atoll, even though the vast majority of debris has now been removed. This productive cruise ended with a successful one-day VIP cruise to Fagatele Bay National Marine Sanctuary. In attendance for the VIP cruise were the Governor, Lt. Governor and over

30 local leaders. To learn about CRED's related projects, visit http://www.pifsc.noaa.gov/cred/eco_assess.php and http://www.pifsc.noaa.gov/cred/hmapping/amsam_oa.php.

International

Coral Reef Climate Change Studies to Begin in Discovery Bay, Jamaica. During the week of February 27, 2006, a supporting bottom plate was installed for a Coral Reef Early Warning System (CREWS) station near the Discovery Bay Marine Laboratory (DBML) by employees of NOAA's Atlantic Oceanographic and Meteorological Laboratory (AOML). This was the second stage in a four-stage deployment, with the final two stages scheduled for completion in June, 2006. This site, located on the north shore of Jamaica, will be the fourth CREWS station; similar sites are already installed in the Bahamas, the U.S. Virgin Islands, and Puerto Rico. Many other station installations are planned for the Caribbean and other coral reef areas around the world. The CREWS station will measure wind speed and direction, precipitation, barometric pressure, air temperature, photosynthetically available radiation above and below the water, ultraviolet light above and below the water, sea temperature, salinity and partial pressure of carbon dioxide. The carbon dioxide studies are especially important in determining the influence of a changing global climate on coral reef growth patterns. Sea temperature and light studies help to determine the influence of a changing environment on the phenomenon of coral bleaching. The CREWS stations will eventually provide data to establish long-term environmental trends. To learn more about CREWS or track the progress of the DBML CREWS station installation, visit: <http://dbjml1-log.blogspot.com/>. The DBML CREWS station is being installed under a cooperative Caribbean program called Mainstreaming Adaptation to Climate Change (MACC) funded by World Bank and the Global Environmental Facility, with

personnel support from NOAA and others. The main objective of the MACC project is to facilitate the creation of an environment for climate change adaptation in the Caribbean Community's small island and coastal developing states.

CRW Coordinator Reviews Caribbean Bleaching Response at Convention on Biodiversity.

On March 22, Dr. Mark Eakin gave a presentation on the 2005 Caribbean mass coral bleaching event at an official side event of the 8th Conference of the Parties to the Convention on Biodiversity (CBD COP8) in Curitiba, Brazil. The International Coral Reef Initiative (ICRI) sponsored the event entitled, 'Coral Reef Management Past, Present and the Future; Case Studies and Lessons Learned.' As an expert on the 2005 Caribbean bleaching event and scientific advisor to the Global Coral Reef Monitoring Network (GCRMN), Dr. Eakin was invited by the ICRI Secretariat to speak during this official side event. Dr. Eakin's presentation, 'Caribbean Basin-wide Bleaching Event: Extent of Bleaching and Response Coordination' was attended by an overflow crowd of almost 100 people. Attendees included delegates from many governments, International Governmental Organizations, and Non-Governmental Organizations. The session also included a presentation on ICRI, one on coral reefs of Brazil, and the announcement of Brazil's intent to join ICRI. Dr. Mark Eakin, coordinator of the NOAA/NESDIS Coral Reef Watch was a member of the US delegation to CBD COP8. Read more about COP 8 at: <http://www.biodiv.org/meetings/cop8mop3/cop-08.shtml> and learn about the 2005 Caribbean bleaching event at: <http://coralreefwatch.noaa.gov/caribbean2005/>.

National/Headquarters

CRW Coordinator Featured on *All Things Considered*. National Public Radio's *All Things Considered* aired a story on the record breaking 2005 Caribbean coral bleaching event on March 14th. The seven-minute piece featured an

interview with Dr. Mark Eakin, Coordinator of NOAA's Coral Reef Watch (CRW) and focused on the bleaching that occurred on reefs in Panama's Bocas del Toro region. While that area suffered tremendous bleaching and mortality, even more extensive bleaching and mortality occurred in Puerto Rico and the U.S. Virgin Islands. NOAA CRW, a key component of NOAA's Coral Reef Conservation Program, is leading interagency Federal and international efforts to document and assess the extent and impacts of the Caribbean bleaching event, as called for by the U.S. Coral Reef Task Force in November 2005. To access the 2005 bleaching event website hosted by CRW, go to <http://coralreefwatch.noaa.gov/caribbean2005/>. Dr. Eakin's interview can be heard at <http://www.npr.org/templates/story/story.php?storyId=5280118>.

Record Program Participation in the 2006 Ocean Sciences Meeting. NOAA's CRCP reports record participation in the recent 13th Ocean Sciences Meeting. The 2006 Meeting was held from February 20-24 in Hawai'i and included nearly 5,000 registered participants. Members of the CRCP team from The National Environment, Satellite, Data and Information Service (NESDIS) Coral Reef Watch (CRW), the Coral Reef Information System (CoRIS), and the Pacific Islands Fisheries Science Center (PIFSC) Coral Reef Ecosystem Division (CRED) contributed to this record involvement. CRCP researchers moderated a total of three sessions, gave 14 talks, and presented nine posters. Topics covered included: development of and data access for Coral Reef Ecosystems Integrated Observing System (CREIOS); ocean acidification; high-resolution satellite products; the Caribbean bleaching event; modeling thermal stress in Palau; and coral reef assessment, monitoring and mapping activities at U.S.-affiliated islands throughout the Pacific Ocean. Several parties, including researchers and managers from academic, non-governmental organizations

(NGOs) and international institutions, expressed considerable interest in some of the presented work and offered potential future collaborations. Visit <http://www.agu.org/meetings/os06/> to find out more about the conference.

Recent Additions to CoRIS. The Coral Reef Information System (CoRIS) team is pleased to announce the following updates to CoRIS: (1) An essay on the coral reef ecosystems of the Northwestern Hawaiian Islands (NWHI) is the first in a series on U.S. coral reef ecosystems to be offered by CoRIS. In addition to descriptions of the ecosystems of the NWHI, the essay provides links to metadata and data for each island, atoll, shoal, and submerged bank. Visit http://www.coris.noaa.gov/about/eco_essays/ to read this essay; (2) The *Oculina* Banks Habitat Area of Particular Concern (OHAPC) 2001 dive metadata have been updated with complete taxonomy; (3) Metadata for NOAA Southeast Fisheries Science Center (SEFSC) projects have been added to CoRIS. These projects are: Population Monitoring of *Acropora palmata* in the Florida Keys 1998, Demographic Monitoring of Juvenile *Acropora* spp. in the Florida Keys 2002, Aerial Survey of Fishing Vessels, Marine Mammals and Sea Turtles Along Florida Reef Tract 1992-2004, Reef Fish of Navassa Island 2004, Threat Assessment of *Acropora* in the Florida Keys 2004, and Navassa Island Coral reef status 2004; (4) Additional coral reef locations for Coral Reef Watch (CRW) automated Satellite Bleaching Alerts were created for Davies Reef, Heron Island, Tahiti-Moorea, Scott Reef, Galapagos and Ningaloo. CoRIS will continue to archive the Alerts, which now include Alerts for 22 of the 24 reef locations currently being monitored. To receive Alerts for these new locations, sign up at: <http://coralreefwatch-satops.noaa.gov/SBA.html>; and (5) The National Centers for Coastal Ocean Science (NCCOS) Biogeography Team's Coral Reef Ecosystem Assessment and Monitoring program water quality metadata and recent updates to fish and habitat

assessment metadata for La Parguera, PR and St. Croix and St. John, USVI have been added to the CoRIS site at:
https://www8.nos.noaa.gov/biogeo_public/query_fish.aspx. CoRIS now has 1168 metadata records that provide users access to 14856 coral products.

CORAL REEFS IN THE NEWS

Articles mentioning NOAA

“Project Seeks Out Marine Debris” – February 23, 2006 (*The Honolulu Advertiser*). “The National Oceanic and Atmospheric Administration is flying the coastlines of the Big Island and Kaua’i through Tuesday to map marine debris so crews can later remove it.”
<http://www.honoluluadvertiser.com/apps/pbcs.dll/article?AID=/20060223/NEWS01/602230364/1190/NEWS>

“Searchers Airborne for Ocean Debris: The National Oceanic and Atmospheric Administration Wants to Get Tough with Marine Debris off Kaua’i” – February 25, 2006 (*The Garden Island, HI*). “...‘The time has come for us to increase the scope of our marine-debris project, and focus efforts on our local shorelines and reefs,’ [Seema Balwani of NOAA] said.”
<http://www.kauaiworld.com/articles/2006/02/25/news/news03.txt>

“Rogues of the Pacific” – March 2006 (*Cascadia Times Spring Issue*). “Exploiting a fragile coral reef ecosystem for fun and profit.”
<http://www.times.org/>

“The Fate of the Oceans” – March 2006 (*Mother Jones Magazine, March/April issue*). “Our oceans are under attack, and approaching a point of no return. Can we survive if the seas go silent?”
http://www.motherjones.com/news/feature/2006/03/the_fate_of_the_ocean.html

“Council Votes to Establish Large No-Fishing Area and Allow Only Limited Pelagic and Bottomfish Fishing in the Northwestern Hawaiian Islands” – March 16, 2006 (WESPAC press release on www.wpcouncil.org). “The Western Pacific Regional Management Council...voted to amend its existing fishery management plans (FMPs) to allow only limited bottomfish and pelagic fishing in federal waters 3-50 miles offshore of the Northwestern Hawaiian Islands (NWHI). Fishing for lobster, precious coral and coral reef fish would be prohibited.” <http://www.wpcouncil.org/>

“Decision Reached on Fishing Regulation Recommendations for the Proposed Northwestern Hawaiian Islands Sanctuary” – March 17, 2006 (WESPAC press release on www.wpcouncil.org). “The Western Pacific Fishery Management Council yesterday decided on draft fishing regulations for the proposed Northwestern Hawaiian Islands (NWHI) National Marine Sanctuary (NMS).”
<http://www.wpcouncil.org/> (Scroll down to NWHI section.)

“Ghostly Coral Bleaching Haunt World’s Coral Reefs” – March 17, 2006 (*Reuters, United Kingdom and approx. 68 other sources*). “When marine scientist Ray Berkelmans went scuba diving at Australia’s Great Barrier Reef earlier this year, what he discovered shocked him - a graveyard of coral stretching as far as he could see.”
http://today.reuters.com/news/newsArticle.aspx?type=scienceNews&storyID=2006-03-17T130936Z_01_SP166414_RTRUKOC_0_US-ENVIRONMENT-CORAL-BLEACHING.xml

“Reef System in Peril: Australian Storm Will Devastate the Great Barrier Reef” – March 21, 2006 (*The Hindu*, India). “The severe storm that barreled over Australia's Great Barrier Reef on Monday probably left an underwater trail of devastation that could take 20 years to return to normal.”

<http://www.hindu.com/2006/03/21/stories/2006032103592000.htm>

“Caribbean Coral Suffers Record Death” – March 30, 2006 (*Associated Press in The Washington Post* and approx. 109 other sources). “...‘The mortality that we're seeing now is of the extremely slow-growing reef-building corals.’ Some of the devastated coral can never be replaced because it only grows the width of one dime a year, [National Park Service fisheries biologist Jeff] Miller said....‘We haven't seen an event of this magnitude in the Caribbean before,’ said Mark Eakin, coordinator of the National Oceanic and Atmospheric Administration's Coral Reef Watch.”

<http://www.washingtonpost.com/wp-dyn/content/article/2006/03/30/AR2006033001016.html>

Other articles

“The Rising Tide of Ocean Plagues: How Humans are Changing the Dynamics of Disease” – February 17, 2006 (SeaWeb press release on www.eurekalert.org and approx. 43 other sources). “.... In the 1970's there were only a few diseases documented on coral reefs. Today there are over thirty, and the numbers are increasing exponentially.”

http://www.eurekalert.org/pub_releases/2006-02/s-trt021206.php

“Changes in Latitude: Is Pollution Causing Regional Coral Extinctions?” – February 20, 2006 (Harbor Branch Oceanographic Institution press release on www.hboi.edu and approx. 14 other sources). “Since the 1980s, researchers have hypothesized that nutrient levels rather than temperature are the main factor

controlling the latitudinal bounds of coral reefs, but the issue remains controversial. New results from an extensive survey of reefs in South Florida by a Harbor Branch Oceanographic Institution research team strongly support this hypothesis.”
<http://www.hboi.edu/news/press/feb2006.html>

“Listening for the Fish: Researchers Use High-tech Acoustics to Make Marine-protected Areas Better” – February 20, 2006 (University of Miami's Rosenstiel School of Marine and Atmospheric Science press release on www.rsmas.miami.edu and approx. 6 other sources). “.... If [they] can get a sense of just how much space [grouper] need to have protected, so that they can swim, feed, and multiply freely, [managers] can effectively rebuild their populations as well as the others that make up the coral reef ecosystem.”

<http://www.rsmas.miami.edu/pressreleases/20060220-ault.html>

“Coral Reef Atlas Soon To Be Available On Internet” -- February 20, 2006 (*Pacific Magazine*, HI). “*Tahitipresse* reports that Internet users will soon be able to access a French research institute's Coral Reef Atlas for French Polynesia, a printed work published confidentially for professionals a year ago.”

http://www.pacificislands.cc/pina/pinadefault2.php?url_pinaid=20409

“WWF Divers Find New Thai Reef” – February 21, 2006 (WWF press release on www.panda.org and approx. 30 other sources). “The reef, located off the coast of Khao Lak, a popular tourist destination on the Andaman Sea coast of Thailand, was discovered in January by a team of WWF divers after being tipped off by local fishermen.”

http://www.panda.org/about_wwf/where_we_work/asia_pacific/news/index.cfm?uNewsID=60700

“Census Targets Reef Life” -- February 21, 2006 (*The Honolulu Advertiser*). “....The project, to be known as CReefs, in addition to identifying and counting species, will try to establish what is needed to preserve the biodiversity of the reefs.”
<http://www.honoluluadvertiser.com/apps/pbcs.dll/article?AID=/20060221/NEWS11/602210340/1021/NEWS>

“Scientists Look to the Bahamas as a Model for Coral Reef Conservation” – February 21, 2006 (*Innovations Report, Germany and approx. 3 other sources*). “....On Feb. 20, Brumbaugh and Fiorenza Micheli, assistant professor of biological sciences at Stanford University’s Hopkins Marine Station, moderated a symposium entitled ‘Coral Reef Ecosystems and People in The Bahamas: Practical Applications of Biocomplexity Science’ at the annual meeting of the American Association for the Advancement of Science in St. Louis.”
http://www.innovations-report.com/html/reports/environment_sciences/report-55589.html

“Report: Tsunami Reefs to Heal in 10 Years” – February 21, 2006 (*Associated Press in Newsweek and approx. 58 other sources*). “Most coral reefs escaped ‘serious damage’ from the 2004 tsunami and should recover in less than 10 years, though much will depend on local government’s protecting marine ecosystems, according to a report released Monday.”
<http://msnbc.msn.com/id/11473220/>

“Reefs May Mitigate Tsunami Damage” – February 22, 2006 (*The Student Operated Press, United States and approx. 2 other sources*). “....The coral reefs absorbed some of the tsunami energy, possibly providing some protection to the adjacent land, although mangroves and coastal forests afforded the most protection to infrastructure on the land and probably reduced the loss of life in these areas.”
<http://www.thesop.org/index.php?id=573>

“Oceanic Acidity: Researcher Outlines Coral’s Future in an Increasingly Acidic Ocean” – February 22, 2006 (*University of Miami’s Rosenstiel School of Marine and Atmospheric Science press release on www.rsmas.miami.edu and approx. 12 other sources*). “....‘Carbon dioxide in the ocean is creating a growingly acidic environment for corals, and this acidity could ultimately cause our reefs to waste away.’”
<http://www.rsmas.miami.edu/pressreleases/20060217-langdon.html>

“Public Inclusion Needed” – February 22, 2006 (*The Barbados Advocate*). “....It was highlighted that local coral reefs in Barbados have been impacted directly by coastal development, anchor and snorkel damage and pollution.”
<http://www.barbadosadvocate.com/NewViewNewsleft.cfm?Record=24588>

“Coral Reef Discovered off Thailand Coast” – February 23, 2006 (*Associated Press in The Boston Globe and approx. 56 other sources*). “....Tipped off by local fishermen, WWF divers in January found what they say is a healthy, 667-acre reef in southern Thailand with over 30 genera of hard corals, and at least 112 species of fish.”
http://www.boston.com/news/science/articles/2006/02/23/coral_reef_discovered_off_thailand_cost/?p1=MEWell_Pos3

“Scientists Studying Molokai Waters Say Rising Sea Threatens Coral” – February 23, 2006 (*Associated Press on www.signonsandiego.com and approx. 6 other sources*). “....Initial findings by scientists from the U.S. Geological Survey studying the south shore of the Hawaiian island of Molokai reveal that higher waters likely will lead to larger waves and larger currents, endangering the health of fringe reefs.”
<http://www.signonsandiego.com/news/science/20060223-0806-wst-coralreefs.html>

“User’s Fee Proposed for Grotto, Lao Lao Bay”
– February 23, 2006 (*Saipan Tribune, Commonwealth of Northern Marianna Islands*). “Using the pitch that coral reefs are crucial to the CNMI economy, environmental agencies are proposing several means to raise funds that would go toward ensuring the health and survival of the tourist draw in the Commonwealth.”

<http://www.saipantribune.com/newsstory.aspx?cat=1&newsID=55074>

“DENR Conducts Inventory of Baring Punta Silum Coastal Resources” – February 23, 2006 (*Phillipine Information Agency press release on www.pia.gov.ph*). “...In general, the abundance of fish in Punta Silum is relatively high both in the coral and artificial reef areas, but the diversity of fish species is quite poor.”

<http://www.pia.gov.ph/news.asp?fi=p060223.htm&no=13>

“Cousteau Team Filming Documentary in American Samoa” – February 24, 2006 (*Associated Press on www.kpua.net, HI and approx. 3 other sources*). “Scientists have begun exploring and filming the coral reefs of Fagatele Bay National Marine Sanctuary in American Samoa... Explorer Jean-Michel Cousteau and his team are filming as part of a two-hour show, *America’s Underwater Treasures*.”

<http://www.kpua.net/news.php?id=7576>

“Aquanauts Grenada has Become the First Beautiful Oceans Science Dive & Snorkel Centre” – February 24, 2006 (*Aquanauts Grenada press release on www.aquanautsgrenada.com and approx. 5 other sources*). “Aquanauts has a strong international reputation for professionalism and environmental awareness and is the perfect location to begin our program of coral reef biology courses for divers and snorkelers,” says Stephan Becker, President of Beautiful Oceans.”

<http://www.aquanautsgrenada.com/press/BEAUTIFUL%20OCEANS-press%20release%20Aquanauts.pdf>

“SCUBA Diving is Saving Cambodia’s Reefs” – February 25, 2006 (*Asian Tribune, Thailand*). “... ‘[I]t is a chain reaction, with direct, positive economic impact to the very fishermen who were displaced by the divers.’ [Dive Master and owner of Eco Sea, a diving tour company in Cambodia,] Fred explained.”

http://www.asiantribune.com/show_news.php?id=17170

“Acid Seas Kill off Coral Reefs” – February 26, 2006 (*The Sunday Times, United Kingdom and approx. 8 other sources*). “...Researchers have found that carbon dioxide, the gas already blamed for causing global warming, is also raising the acid levels in the sea. The shells of coral and other marine life dissolve in acid.”

<http://www.timesonline.co.uk/article/0,,2089-2058687,00.html>

“Australia’s Barrier Reef - Here Today, Gone Tomorrow” – February 27, 2006

(*www.newkerala.com, India and approx. 5 other sources*). “The gorgeous coral that draws two million tourists a year to Australia’s Great Barrier Reef could all be gone by 2025 if global warming keeps pushing up sea temperatures.”

<http://www.newkerala.com/news2.php?action=fullnews&id=17399>

“Coast of Death: Fiji’s Tourism Mecca Under Threat” – March 1, 2006 (*Islands Business, Fiji*). “...Several scientific studies show that village piggeries, village sewage and hotels dump tonnes of nutrients or pollutants on the reef, killing corals while feeding algae growth.”

http://www.islandsbusiness.com/fiji_business/index_dynamic/containerNameToReplace=MiddleMiddle/focusModuleID=5644/overrideSkinName=issueArticle-full.tpl

“Regulators to Decide on Pacific Bottom Trawling Ban” – March 2, 2006 (*Associated Press in the Monterey Herald, CA and approx. 5 other sources*). “Federal fishery regulators are expected to decide next week whether to impose a

permanent ban on trawl fishing in nearly 300,000 square miles of waters off the West Coast, a compromise reached by environmentalists and the fishing industry.”

<http://www.montereyherald.com/mld/montereyherald/news/politics/14002207.htm>

“Coral Reef Diversity Refutes the Neutral Theory of Biodiversity” – March 2, 2006

(Nature, United States). “The global decline of coral reefs highlights the need to understand the mechanisms that regulate community structure and sustain biodiversity in these systems....We show that coral assemblages differ markedly from neutral-model predictions for patterns of community similarity and the relative abundance of species.”

<http://www.nature.com/nature/journal/v440/n7080/full/nature04534.html>

“Pirate Trawlers Face Crackdown on Overfishing” – March 3, 2006 (Reuters AlertNet, United Kingdom and approx. 25 other sources).

“Pirate trawlers will be tracked by a new database as part of a planned crackdown on illegal fish catches worth \$9.5 billion a year that are adding to strains on global stocks, a report said on Friday.”

<http://www.alertnet.org/thenews/newsdesk/N03518801.htm>

“Scientists Shocked at Great Barrier Reef Bleaching” – March 3, 2006 (Juicee News Daily, AL).

“Scientists say Australia’s hot summer has had a devastating effect on Queensland’s Great Barrier Reef. Coral reef specialists are comparing the severity of the damage to the worst case ever recorded in 2002.”

<http://www.juiceenewsdaily.com/index.php/2006/02/03/scientists-shocked-at-great-barrier-reef-bleaching/>

“IODP Scientists Acquire ‘Treasure Trove’ of Climate Records Off Tahiti Coast” – March 3, 2006 (Integrated Ocean Drilling Program press release on www.eurekalert.org). “....An international team of scientists, supported by the

Integrated Ocean Drilling Program, reunited at the University of Bremen to analyze a trove of coral fossil samples retrieved from Tahitian waters during October and November 2005.”

http://www.eurekalert.org/pub_releases/2006-03/iodp-isa030106.php

“Reef Fish Follow Their Noses” – March 3, 2006 (Practical Fishkeeping, United Kingdom).

“Reef fishes from the genus *Apogon* use olfactory cues to allow them to remember where they live, and find their way home if they get lost.”

<http://www.practicalfishkeeping.co.uk/pfk/pages/item.php?news=862>

“Scientists Sound Coral Reefs Alert” – March 3, 2006 (Sydney Morning Herald, Australia and approx. 2 other sources).

“Marine reserves across the globe should be extended because coral reefs are more susceptible to environmental change than previously thought, researchers say.”

<http://www.smh.com.au/news/National/Scientists-sound-coral-reefs-alert/2006/03/03/1141191834265.html>

“Caught by the Past: How a New Ecological Theory is Challenged and New Conservation Areas for Coral Reefs are Necessary” – March 6, 2006 (Innovations Report, Germany).

“An extensive study on the Indo-Pacific coral reefs, about to be published in the 2nd of March issue of the journal Nature[1] challenges the present conservation protocols for these organism and calls for important changes in the way that protected areas are being established all over the world, in order to be able to stop the present (fast) rate of extinction observed in coral reefs.”

http://www.innovations-report.com/html/reports/environment_sciences/report-56156.html

“Rising Sea Levels Threaten Coral Reefs: Researchers Believe That the Predicted Rise Could Also Spur Different Varieties” – March 6, 2006 (Associated Press in Honolulu Star-Bulletin). “Already endangered by agricultural runoff and sewer line leaks, the world's coral reefs also face the threat of a projected rise in sea levels, according to a preliminary study by government scientists.”

<http://starbulletin.com/2006/03/06/news/story06.html>

“Tosa Protects Piece of Geologic History: City Takes Steps to Safeguard Prehistoric Reef, Deemed National Landmark” – March 7, 2006 (Milwaukee Journal Sentinel Online, WI).

“...What looks like mounded outcroppings of rock, all but buried under years of underbrush, are in fact the fossilized remains of a prehistoric reef - an ecosystem much like today's coral reefs - that thrived during the Silurian Period, some 425 million years ago, when much of North America lay beneath a shallow, tropical sea.”

<http://www.jsonline.com/story/index.aspx?id=406319>

“Feds Confiscate Shells Leaving Territory in ‘Judgement Call’” – March 13, 2006 (St. John Tradewinds, U.S. Virgin Islands). “The idea is that to interfere with the coral reef is to interfere with the ecosystem,” [Customs and Border Protection spokesperson John Mohan] said. “The aim of the law that we enforce is to prevent that. Shells which were obviously treated or processed are usually not confiscated, according to Mohan.”

http://www.stjohntradewindsnews.com/index.php?option=com_content&task=view&id=272&Itemid=38

“Weed-eating Fish ‘Could Save Reefs’” – March 14, 2006 (Seven News, Australia and approx. 2 other sources). “...‘We are only just beginning to realise what a vital role these groups of fish play in keeping reefs clean, healthy and free of weed,’ said Prof Bellwood, of JCU's Australian Research Council Centre of Excellence for Coral Reef Studies...Prof Bellwood said a group of parrotfish could eat through 40kg of coral

algae within a couple of weeks, preventing weeds from completely taking over a reef.”

<http://seven.com.au/news/nationalnews/152549>

“‘Shark Parks’? Oceans Said in Need of Protection” – March 14, 2006 (Reuters, United Kingdom and approx. 14 other sources).

“...‘We should have at least as much of the oceans protected as of the land,’ [oceanographer Sylvia Earle] said...‘Key areas for protection are deep sea coral reefs and seamounts which are being strip-mined by bottom trawl fishing,’ said Simon Cripps, director of the Global Marine Programme at the WWF environmental group.”

http://today.reuters.com/news/newsArticle.aspx?type=scienceNews&storyID=2006-03-15T010538Z_01_L12609380_RTRUKOC_0_US-ENVIRONMENT-OCEANS.xml

“International Council of Cruise Lines and Conservation International Launch Global Mapping Project to Protect Sensitive Marine Areas” – March 14, 2006 (Conservation International press release on

www.conservation.org). “The International Council of Cruise Lines (ICCL) and Conservation International (CI) today announced a joint initiative to develop a global map that integrates additional sensitive marine areas into cruise line navigational charts where wastewater discharge should be avoided.”

http://www.conservation.org/xp/news/press_releases/2006/031406a.xml

“Coral Reefs Stunted by Too Much Pollution” – March 15, 2006 (Independent Online, South Africa). “Carbon dioxide emissions in the atmosphere are harming the world's seabeds, stunting the growth of coral reefs because of rising acidity levels in the water, according to a study due out in Norway this week.”

http://www.int.iol.co.za/index.php?set_id=14&click_id=143&art_id=qw1142370363798B256

“Drilling Coral for Past Secrets” – March 15, 2006 (ABC Tropical North Queensland, Australia). “...A new coral drilling study is set to unlock the secrets of the local environment’s past...Professor Ove Hoegh-Guldberg, Director of Marine Studies at the University of Queensland says the study will pinpoint the exact moment that land usage impacted on the reef and the inner shore.”

<http://www.abc.net.au/tropic/stories/s1592434.htm?backyard>

“Council Votes for Seasonal Closure of Main Hawaiian Islands Bottomfishing” – March 16, 2006 (WESPAC press release on www.wpcouncil.org). “The Western Pacific Regional Fishery Management Council... yesterday voted to close the main Hawaiian Islands (MHI) to bottomfish fishing between May 1 and August 31 annually in an effort to end bottomfish overfishing.” <http://www.wpcouncil.org/>

“Corral Shipment Costs Fish Dealer Big Fine” – March 16, 2006 (Brandon Sun Online, Canada). “Illegally importing live corals and clams has cost a Brandon man more than \$1,300 in fines. James Douglas Hercun pleaded guilty to the charges earlier this month, after federal border inspectors discovered the protected species in a shipment of tropical fish.”

http://www.brandonsun.com/story.php?story_id=21250

“Coral Reefs Seen Threatened by Tsunami Rebuilding” – March 16, 2006 (Reuters, United Kingdom and approx. 13 other sources). “Coral reefs that survived the devastating Indian Ocean tsunami are coming under threat from rushed rebuilding efforts in the region, two international environmental groups said on Thursday.”

http://today.reuters.com/news/newsArticle.aspx?type=sunamiNews&storyID=2006-03-16T110403Z_01_L16720575_RTRUKOC_0_UK-ENVIRONMENT-REEFS-TSUNAMI.xml

“No More Coral Reefs by 2050, Says Scientist” – March 17, 2006 (Independent Online, South Africa and approx. 32 other sources).

“...‘Scientific reports are indicating we will have no corals left by 2050,’ said Jude Bijoux, the Manager of the Seychelles Centre for Marine Research and Technology. ‘We lost 90 percent of them in 1998 and the little that was left is apparently under frequent threat.’”

http://www.int.iol.co.za/index.php?set_id=1&click_id=143&art_id=vn20060316040202417C514669

“Jean-Michel Cousteau: Ocean Adventures Embarks for the Most Remote Islands on the Planet in Premiere Episode Voyage to Kure, Airing on PBS April 5 and 12” – March 17, 2006 (KQED press release from

www.prnewswire.com). “Expedition by new ‘Oceanauts’ and Cousteau veterans explore Pacific’s wild coral reefs in Northwestern Hawaiian Island Archipelago.”

<http://biz.yahoo.com/prnews/060317/sff034.html?.v=37>

“Proposal Would Call for Permits, Fishing Limits” – March 19, 2006 (The Miami Herald, FL). “‘We recognized that we need to raise money to put on the water more patrol rangers,’ [Biscayne National Park superintendent, Mark Lewis]said. ‘We can really make a difference with the extra rangers and deal with the high-population areas on the sandbars where boaters congregate, and out on the reefs to make sure boaters don’t drop anchors on the coral.’”

http://www.miami.com/mld/miamiherald/news/local/states/florida/counties/miami-dade/cities_neighborhoods/pinecrest/14128224.htm

“Rest in (Underwater) Peace: Artificial Sea Habitats Offer an Opportunity for Loved Ones to ‘Live On’ Through Sea Life” – March 20, 2006 (Virgin Islands Daily News). “St. Thomas could get an official underwater graveyard of sorts if a permit to place artificial “eternal reef balls” off its shores is approved.”

http://www.virginislandsdailynews.com/index.pl/article_home?id=14598626

“Rotarians Offer Help in Project” – March 20, 2006 (*The Star Online*, Malaysia). “The Rotary Club of Kuala Terengganu wants to give a helping hand to the state's reef ball project off the waters of Pulau Redang. Its president Soh Cheng Thiong said they were willing to teach other groups who are keen to help in the project.”

<http://thestar.com.my/news/story.asp?file=/2006/3/20/southneast/13703907&sec=southneast>

“Cyclone Damage ‘Extends Below the Waves’” – March 21, 2006 (*Independent Online*, South Africa). “...‘In the area covered by the centre of the storm, you’re looking at the death of almost all corals on parts of the reef that were affected by the wind and the waves,’ [an expert] told reporters.”

http://www.int.iol.co.za/index.php?set_id=14&click_id=143&art_id=qw1142888040143B223

“Scientists Check Reef for Cyclone Damage” – March 21, 2006 (*ABC Queensland*, Australia and approx. 1 other source). “Scientists have a grim outlook for the coral reefs that were in the path of cyclone Larry. Coral bleaching experts from research ship *Pelican One* are going to inspect reefs off Innisfail.”

<http://www.abc.net.au/news/items/200603/1598283.htm?queensland>

“Larry’s Cool Change Good for Reef” – March 22, 2006 (*UQ News Online*, Australia).

“Cyclone Larry has been a nightmare on land but underwater, it may have helped save the Great Barrier Reef from disaster.”

<http://www.uq.edu.au/news/?article=9223>

“UN Urged to Protect Glaciers and Reefs from Global Warming” – March 22, 2006 (*The Environmental Magazine*, United States). “... Environmentalists blame melting glaciers on Mt. Everest and dying coral at the Great Barrier Reef on global warming, and are calling on the UN to institute special protections for such places.”

<http://www.emagazine.com/view/?3131>

“CRM Wants Coral Reefs Education in Classrooms” – March 23, 2006 (*Saipan Tribune*, Commonwealth of Northern Mariana Islands). “As environmentalists and economists underscore the importance of coral reefs, the CNMI government is planning to educate the youth about those resources by incorporating the subject in the school curricula.”

<http://www.saipantribune.com/newsstory.aspx?cat=1&newsID=55900>

“Fears for Reef, Rainforest” – March 23, 2006 (*The Australian* and approx. 5 other sources).

“Cyclone Larry might have left a trail of damage 150km wide through the Great Barrier Reef and stripped bare 95 per cent of rainforests where it struck the coast, authorities said today.”

http://www.theaustralian.news.com.au/common/story_page/0,5744,18577559%255E1702,00.html

“Rest for the Visayan Sea” – March 23, 2006 (*Inquirer*, Philippines).

“...A single coral garden dive site in Anilao, Batangas and a single marine sanctuary in Bantayan Island in Cebu, with a combined area of 10 hectares, have more variety of corals than what can be found in the entire Caribbean put together.”

http://news.inq7.net/opinion/index.php?index=2&story_id=70281&col=82

“Marine Life ‘Facing Extinction Due to Land Reclamation’” – March 23, 2006 (*Gulf Daily News*, Bahrain).

“...‘Rise in land reclamation works in Bahrain have posed a threat to the coral life and it has become a major environmental issue.’ Dr Al Alawi said the marine life must be given equal importance to human life.”

<http://www.gulf-daily-news.com/Story.asp?Article=138870&Sn=BNEW&IssueID=29003>

“Scientists Say Reef May Be Dying: Jupiter Island Dives Discover Coral Bleaching” – March 25, 2006 (*South Florida Sun-Sentinel*).

“...Local scientists who dove the reef on the north end of Jupiter Island recently discovered the

first major outbreak of coral bleaching -- a sign of stress that can lead to death -- with around 15 percent of the coral reef already dead.”

<http://www.sun-sentinel.com/news/local/palmbeach/sfl-pcorals25mar25.0,1908954.story?coll=sfla-news-palm>

“Cyclone Larry Saves Reef From Bleaching” – March 27, 2006 (*The Age, Australia* and approx. 3 other sources). “Cyclone Larry has helped save the Great Barrier Reef from a major bleaching event by lowering the water temperatures, a marine specialist says.”

<http://www.theage.com.au/news/National/Cyclone-Larry-saves-reef-from-bleaching/2006/03/27/1143330961358.html>

“Europeans Arrested, Fined for Scuba Diving in No-dive, No-take Marine Reserve” – March 27, 2006 (*Cyber Diver News Network*). “Two German nationals and their Filipino guide were arrested Wednesday and later fined for scuba diving inside a marine sanctuary off the coast of Brgy. Lipayo, Dauin, Oriental Negros.”

<http://www.cdn.info/news/eco/e060327.html>

“RP Hosts 'Oceans 38' to Save World Seas” – March 29, 2006 (*Asian Journal, CA* and approx. 1 other source). “The Philippines, along with Portugal and Indonesia, is leading 13 Asian countries and 25 European Union member states in one of the biggest international efforts to save the world’s oceans and marine resources from further depletion.”

<http://www.asianjournal.com/?c=123&a=11748&sid=9f8fc5ef2979d38b254f38dd4c21518e>

“Island Nations Commit to Conservation Goals” – March 29, 2006 (IUCN press release in *Pacific Magazine, HI*). “...The President of Palau, H.E. Tommy Remengesau, Jr. ...with the support of leaders across Micronesia announced the Micronesia Challenge: to protect 30 percent of near-shore marine and 20 percent of terrestrial resources on islands by 2020. Inspired by its Micronesian counterparts in the Pacific, the

Caribbean nation of Grenada pledged to put 25 percent of near-shore marine and 25 percent of terrestrial resources under effective conservation by 2020.”

<http://www.pacificislands.cc/pina/pinadefault2.php?urlpinaid=21084>

“Spill Sends Millions Of Gallons Of Sewage Into Hawaii Canal” – March 29, 2006 (*Associated Press* on www.TheHawaiiChannel.com and approx. 51 other sources).

“...A state Health Department spokesman said, for the most part, the current’s been taking the sewage straight out to sea, but he added, ‘that could change.’ There’s also concern about possible damage to coral reefs and other marine life. ‘I know there’s some concern about the amount of sewage that has gone into the Ala Wai Canal. As much as we wanted to avoid that, it’s not possible,’ city Environmental Services director Eric Takamura said.”

<http://www.thehawaiichannel.com/news/8333051/detail.html>

“Scientists Plan to Set Up Reef Monitoring Network” – March 29, 2006 (*The Mail and Globe Online, Africa*). “Marine scientists from around the world met in Australia on Wednesday to set up a digital sensor network that can monitor endangered coral reefs around the globe.”

http://www.mg.co.za/articlePage.aspx?articleid=268025&area=/breaking_news/breaking_news_international_news/

“\$6 Million Pledged for Conservation Efforts” – March 30, 2006 (*Pacific Magazine, HI*). “The Nature Conservancy and Conservation International committed US\$6 million towards conservation across Micronesia, a region in the Pacific Ocean stretching from Hawaii to the Philippines.”

<http://www.pacificislands.cc/pina/pinadefault2.php?urlpinaid=21113>

“Award-winning Films Put Spotlight on Island’s Coral Reefs” – March 30, 2006 (*The Royal Gazette, Bermuda*). “Two award-winning documentaries about Bermuda’s coral reefs will be screened on the Island on Friday.”

<http://www.theroyalgazette.com/apps/pbcs.dll/article?AID=/20060329/NEWS/103290125>

“Singapore Underwater Federation to Develop Coral Reef at Pulau Hantu” – March 30, 2006 (*Channel News Asia, Singapore*). “The Singapore Underwater Federation is looking into developing a coral reef on the southern island of Pulau Hantu.”

<http://www.channelnewsasia.com/stories/singaporelocalnews/view/200698/1/.html>

“Oceans Gradually Turning into Vast ‘Fizzy Drink’” – March 30, 2006 (*Cyber Diver News Network*). “...The sea life expected to be worst hit include organisms that produce calcium carbonate shells, as these are harder to form in acidic waters. That means that corals, crustaceans, molluscs and certain plankton species will be at risk.”

<http://www.cdn.info/news/science/sc060329.html>

“Kiribati to Create Massive Pacific Marine Sanctuary” – March 30, 2006 (*Associated Press in Taipei Times, Taiwan and approx. 4 other sources*). “The tiny island nation of Kiribati announced the creation of the world's third-largest marine protected area at a UN-sponsored environmental conference in Brazil, according to regional officials.”

<http://www.taipetimes.com/News/world/archives/2006/03/30/2003299998>

“Marine Reserve to Protect Beauty of Pacific” – March 30, 2006 (*News Telegraph, United Kingdom*). “‘If the coral and reefs are protected, then the fish will grow and bring us benefit,’ said Anote Tong, the president of Kiribati (pronounced Kiribas). ‘In this way all species of fish can be protected so none becomes depleted or extinct.’”

<http://www.telegraph.co.uk/news/main.jhtml?xml=/news/2006/03/30/wkirib30.xml&sSheet=/news/2006/03/30/ixworld.html>

UPCOMING EVENTS

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

April 2006

6 – 9: **NSTA 54th National Conference on Science Education.** Anaheim, CA.

http://www.nsta.org/conventiondetail&Meeting_Code=2006ANA

13 – 14: **Quaternary Reefs and Platforms: Bridging the Gap Between the Ancient and Modern.**

Houston, TX. <http://www.aapg.org/houston/courses19.cfm>

18 – 20: **Guiding National Ocean Research Investment: Public Workshop on the Ocean Research Priorities Plan.** Denver, CO. http://ocean.ceq.gov/about/jsost_workshop/welcome.html

19 – 21: **First International Symposium on Mangroves as Fish Habitat.** Miami, FL.

<http://www.rsmas.miami.edu/conference/mangrove-fish-habitat/>

24 – 26: **14th International Conference on Environmental Bioindicators.** Linthicum, MD. Abstracts due January 31, 2006. http://www.tfilearning.com/tfi/c/portal_public/layout?p_1_id=27.28

24 – 26: **Marine Protected Areas Federal Advisory Committee Meeting.** Corpus Christi, TX. Open to the public. http://mpa.gov/fac/fac_meetings.html

27 – 28: **NOAA National Coral Reef Ecosystem Monitoring Program Pacific Regional Meeting.** Honolulu, HI. Attendance by invitation only.

May 2006

1 – 5: **15th U.S. Coral Reef Task Force Meeting.** May 5th meeting date tentative.

<http://www.coralreef.gov/taskforce/meetings.html>

14 – 17: **The Coastal Society 20th Biennial Conference, Charting a New Course: Shaping Solutions for the Coast.** St. Pete Beach, FL. <http://www.thecoastalsociety.org/conference/tcs20/>

18 – 19: **NOAA National Coral Reef Ecosystem Monitoring Program Atlantic Regional Meeting.** Miami, FL. Attendance by invitation only.

29 – 31: **3rd International Symposium on Networks in Bioinformatics.** Amsterdam, The Netherlands.

<http://isnb.amc.uva.nl/>

June 2006

4 – 9: **2006 ASLO Summer Meeting.** Victoria, British Columbia. Abstracts due January 20, 2006.

<http://www.aslo.org/meetings/victoria2006/>

18 – 24: **Asia Pacific Coral Reef Symposium.** Hong Kong SAR, China. Abstracts due February 15, 2006.

<http://www.cuhk.edu.hk/bio/APCRS/index.htm>

24 – 28: **Society for Conservation Biology: 20th Annual Meeting – Conservation Without Borders.**

Abstracts due Oct. 15, 2005. San Jose, CA. <http://www.conbio.org/2006/>

July 2006

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

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

August 2006

7 – 11: **Establishing Coral Reef MPA Managers' Requirements to Guide Integrative Observing System Tool Development Retreat.** La Parguera, Puerto Rico. <http://www.coral.noaa.gov/mpa/retreat/>

September 2006

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

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

18 – 22: **Marine Technology Society and IEEE Oceanic Engineering Society Oceans Conference 2006.**

Boston, MA. <http://www.oceans2006americas.org/>

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

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

October 2006

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

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

http://www.ird.nc/biodec/english/home_page.html

November 2006

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

http://www.ird.nc/biodec/english/home_page.html

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

www.gcfi.org

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

