

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>.

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OF SPECIAL NOTE

NOAA Participates in Interagency Caribbean Coral Bleaching Response. A team from NOAA, the National Aeronautics and Space Administration (NASA), and the Department of Interior spent the week of December 12-20 in Puerto Rico and the U.S. Virgin Islands documenting the state of coral reefs after a devastating coral bleaching event spread throughout the region this fall. NOAA divers assisted NASA by collecting field measurements that coincide with over-flights of NASA's Airborne Visible Infrared Imaging Spectrometer (AVIRIS), an instrument that captures visible and infrared light data. This endeavor is just one component of a larger interagency Federal and international effort to document and assess the extent and impacts of the recent Caribbean/Atlantic bleaching event, as called for by the U.S. Coral Reef Task Force in November. Warnings of the onset of this event were first reported by the NOAA Coral Reef Watch Satellite Bleaching Alert monitoring system in late August in the Florida Keys and spread throughout much of the eastern Caribbean in September and October. To read NOAA's complete press release, visit: <http://www.publicaffairs.noaa.gov/releases2005/dec05/noaa05-144.html>. To read NASA's complete press release, visit: http://www.nasa.gov/centers/ames/news/releases/2005/05_67AR.html.

Harmful Algal Bloom and Fish Kill Reported in the Florida Keys. A harmful algal bloom (HAB) has been present in the Florida Keys since November. The first report originated from the Dry Tortugas, where a "low" concentration of the harmful algal species, *Karenia brevis*, was measured by Mote Marine Laboratory in a water sample collected by a volunteer on November 19th. Although it is very unusual to observe HAB-related fish kills along the outer reef line of the Florida Keys National Marine Sanctuary, localized fish kills were reported south of Key West on December 1st and 2nd. This included various reef fish species reported dead in the Western Sambo Ecological Reserve.

Water samples collected in this area showed a "low" concentration of *K. brevis*. There currently are "low" concentrations of *K. brevis* northwest of Key West. Many Florida Keys stations on both the Gulf and Atlantic sides are currently reporting no presence of *K. brevis*. The FKNMS and Mote have received one additional report of a fish kill last week from Big Touch Key. While testing to confirm a relationship to the presence of *K. brevis* is pending, it is likely the kill is related to the HAB. To view monthly sampling results or for more information, visit http://isurus.mote.org/Keys/research/HAB_monitoring.phtml.

ANNOUNCEMENTS

Job Opening in NOAA's Coral Reef Conservation Program. NOAA's Coral Reef Conservation Program (CRCP) is searching for a Coral Marine Scientist/Policy Analyst to fill a full time position in Silver Spring, MD. This position is a contract position with IM Systems Group (www.imsg.com). The position will support Office of Oceanic and Atmospheric Research (OAR) participation in NOAA's CRCP (<http://www.coralreef.noaa.gov/>). Please visit the following site for full position details and application instructions: http://www.imsg.com/career_center/JobDetail.asp?JobID=191. Please note that the ecosystem research requirement listed no longer applies. In addition to the application instructions listed in the posting, applicants should also email their résumé, cover letter, and salary requirements to Jill Meyer (meyerj@imsg.com) with the subject header: Marine Scientist – OAR.

Job Opening in AICRICCS. The All Islands Coral Reef Initiative Coordinating Committee Secretariat (AICRICCS) is searching for an Administrative Director to fill a full time position in Honolulu, HI. The U.S. All Islands Coral Reef Initiative Coordinating Committee (USAICRICC) was formed in 1999. Its members are the governor-appointed official points of contact from the six island jurisdictions on

the U.S. Coral Reef Task Force (USCRTF). These are American Samoa, CNMI, Guam, Hawaii, Puerto Rico and the U.S. Virgin Islands. This committee serves as a coordination mechanism whereby the islands can share innovative resource management ideas, participate in cooperative planning for coral reef management and coordinate with USCRTF partners and initiatives. For further details and application instructions, please visit:

https://rcuhweb1.rcuh.com/servlets/clientservlet/hrms8/?ICType=Panel&Menu=ROLE_APPLICANT&Market=GBL&PanelGroupName=HR_JOB_POST_APP.

Hawaiian Recreational Impacts to Reefs Local Action Strategy Ready for Viewing. The Hawai'i Recreational Impacts to Reefs Local Action Strategy is complete. For more information or to download the document, visit: <http://www.hawaiiectourism.org/article43.html>.

UPDATES

Atlantic

NCCOS Monitoring Documents Massive Bleaching Event in the U.S. Virgin Islands.

Researchers from the National Centers for Coastal Ocean Science (NCCOS) and the South Florida-Caribbean Network of National Parks (NPS-SFCN) conducted testing for bleaching on 91 randomly selected sites with depths from 9-91 feet in the Buck Island National Reef Monument (BIRNM), St. Croix, U.S. Virgin Islands during October 16-27, 2005. Widespread bleaching occurred in 21 coral species (53% of corals), at these 91 sites. Researchers found that some species were more than 90% bleached (e.g., *D. labrynthiformis*, *Agaricia* spp., *Mycetophyllia* spp., and *M. annularis*), whereas other corals had no bleaching (e.g., *A. cervicornis*; *D. cylindricus*, *Eusmilia* spp., and *Scolymia* spp.). Based on satellite data from NOAA's Coral Reef Watch, water temperatures in the north-eastern Caribbean were warmer than normal (above 28.5°C) for about 12 weeks and may

have contributed to the observed bleaching event. Prolonged bleaching can be lethal to corals and, along with disease and pollution, may have contributed to the loss of about 10% of the world's coral reefs within the past decade. For more information, visit

http://ccma.nos.noaa.gov/ecosystems/coralreef/reef_fish.html.

Detailed Post-Hurricane Rita Monitoring Cruise Conducted in Flower Garden Banks.

A post-hurricane impact monitoring cruise was conducted in the Flower Garden Banks National Marine Sanctuary (FGBNMS) from November 13-15 aboard the charter vessel *M/V Spree*. This cruise was supported by FGBNMS and the Minerals Management Service (MMS), through an existing contract administered by MMS for long-term monitoring of the coral reefs of FGBNMS. Fixed station photography and video transects were obtained to quantitatively determine the physical impacts to the coral reef resulting from hurricane Rita, which passed approximately 60 miles east of FGBNMS, causing seas in the area to exceed 35 feet in height. A number of coral heads were dislodged, broken, or otherwise injured, including extensive damage to a large field of yellow pencil coral. In addition to the physical damage from the storm, a coral bleaching event, first documented in early October, further stressed corals in the region. Coral bleaching surveys were conducted by FGBNMS staff. As of the November cruise, minimal mortality was observed, but up to 40% of the coral colonies continued to be affected by bleaching. A follow-up cruise occurred January 3-4 to document the extent of impact from this bleaching event, which is the most significant on record. Look for a report on the follow-up cruise in the next newsletter. For more information on the ongoing monitoring project, visit: http://www.gomr.mms.gov/homepg/regulate/environ/flow_gar/flowgard.html#ONGOING%20MONITORING%20EFFORT.

NPR Interviews NOAA Scientist for Radio Programs on Coral Reef Health. On December 26th and 27th, the National Public Radio (NPR) *Earth & Sky* radio series aired two short radio programs discussing coral reefs on most NPR stations and the Armed Forces radio network. One program focused on coral reef monitoring and the results of NOAA's *The State of Coral Reef Ecosystems of the U.S. and Pacific Freely Associated States: 2005* report, and the other discussed the massive coral bleaching event that struck the Caribbean this past summer and fall. Taped conversations with Jenny Waddell, editor of the report, served as the basis for both programs. To read the script or listen to the program visit:

<http://www.earthsky.org/shows/show.php?date=20051226>.

NOAA's Coral Reef Watch Contributes to Journal Article and NPR Interview on Caribbean Coral Bleaching Event. In response to the recent Caribbean coral reef warming and bleaching event, Drs. Al Strong and Mark Eakin provided input to a journal article and a live radio program. An article in *Environmental Science & Technology* magazine (<http://pubs.acs.org/est>), a peer-reviewed journal published by the American Chemical Society, addressed the recent bleaching alerts issued by NOAA's CRW. Also, Dr. Mark Eakin was interviewed at the National Public Radio (NPR) studio for a story on the 2005 Caribbean mass coral bleaching event. The story is likely to run on *Morning Edition* or *All Things Considered* in January. No specific air date has been provided as yet. CRW will provide materials for NPR to host on their website in conjunction with the story. For more information on the entire suite of NOAA Coral Reef Watch satellite products, see <http://coralreefwatch.noaa.gov/>.

2005 Florida Bay and Adjacent Marine Systems Science Conference. This conference was held at the Hawk's Cay Resort in Duck Key, Florida from December 11 – 14, 2005. Presentations focused on refining understanding and building predictive capability of critical linkages

across the following themes: Applications and Restoration Targets, the Mangrove-Estuarine Transition Zone, Benthic Habitats, Water Quality, Physical Processes, Higher Trophic Levels, and Adjacent Systems. A number of Southeast Fisheries Science Center (SEFSC) CRCP Principal Investigators presented papers on topics such as Dry Tortugas monitoring work, reef fish otolith research, and ecosystem modeling. For more information on this conference, visit: <http://conference.ifas.ufl.edu/FloridaBay>.

Pacific

First Large-Scale Coral Reef Survey Conducted at Wake Island. In October, as part of the Pacific Reef Assessment and Monitoring Program, the Coral Reef Ecosystem Division (CRED) of the Pacific Islands Fishery Science Center conducted an assessment of Wake Island, the last of the U.S. Pacific Islands to be surveyed. This was the first large-scale survey effort ever performed on the coral reefs and surrounding waters of Wake. Scientists found a productive ecosystem that contained high coral coverage and large mobile fish. Taking a multidisciplinary approach, CRED incorporated oceanographic surveys; large-scale spatial monitoring towed-diver surveys; and quantitative and qualitative coral, algal, invertebrate, and fish surveys, to successfully assess Wake's ecosystem. These surveys may help to bridge the gap between Johnston Atoll, the Northwestern Hawaiian Islands, and the Marianas Islands. Visit the Wake Island website at <http://wake-islandairfield.net/> to see some of the photos taken by the scientists during their surveys around Wake.

NCCOS Report Finds Size at Sex Change in Labroid Fishes is Related to Apex Predator Densities in Northwestern Hawaiian Islands. The National Centers for Coastal Ocean Science (NCCOS) and its partners have published a study of sex change in several species of labroid fishes (wrasses and parrotfish) in the Northwestern Hawaiian Islands (NWHI). Using diver observations at six NWHI atolls, fish size at sex

change was deduced from the overlap in size range between initial and terminal phase color patterns of fishes at each atoll. Within a given species, size at sex change was inversely related to abundance of the apex predator fishes (mainly giant trevally) at a given atoll. This suggests that mortality by predators, rather than competition within the species, is the cause of observed differences in size at sex change among populations. Additionally, the size distribution of other prey reef fishes was strongly skewed towards smaller fishes at atolls with higher densities of apex predators, also suggesting higher natural mortality at these locations. These results suggest that on-site observations instead of destructive sacrifice (necessary for gonadal examination) can be used to estimate size at sex change in labroids, and that prey size frequency distributions could be used as an effective substitute for predation intensity. For more information on phase color patterns, visit:

<http://www.amonline.net.au/fishes/faq/sexchange.htm>. For more information on hermaphroditism in fish, visit:

<http://www.reefscapes.net/articles/articles/2002/hermaphroditism.html>

International

NOAA Brings Workshop on Satellite Remote Sensing Tools for Coral Reef Monitoring to the Republic of Palau. NOAA Coral Reef Watch (CRW) scientists recently conducted a “Satellite Remote Sensing Tools for Monitoring Thermal Stress Leading to Coral Bleaching” workshop for managers and stakeholders of the remote island nation of Palau. The workshop, sponsored by the CRCP, provided a comprehensive conceptual understanding of how satellites monitor sea surface temperature, the errors associated with such measurements, and how these can be applied to monitoring environmental conditions conducive to coral reef bleaching. Practical and hands-on exercises were used to provide familiarization with CRW products and the use of satellite tools in the management of coral reef parks. The workshop attracted managers and stakeholders from many

key Palauan agencies and non-profits and allowed for lively discussions throughout the two-day workshop. Based on the success of these workshops and as a result of discussions at the Coral Reef Task Force meeting in Palau, a satellite tools training session will be held in USVI in late January. For more information on the entire suite of CRW satellite products, see <http://coralreefwatch.noaa.gov/>.

NCCOS Researchers Given Special Awards at Task Force Meeting. Yimnang Golbuu and Steven Victor were recognized for their contributions to improving knowledge of coral reef conservation at the recent U.S. Coral Reef Task Force meeting in Koror, Palau, November 4-7, 2005. Both performed important research on recruitment processes in coral planula larvae and helped to translate this research into policy development and implementation by working with local communities. Yim studied settlement preferences in coral larvae and was among the first to demonstrate the importance of substratum quality in coral reef integrity. Steven built on Yim's work by demonstrating the effects of heavy metals on fertilization rates in spawning corals, as well as the longer-term effects on subsequent coral recruitment. Both studies are considered seminal research in coral reef ecology. Their recent research has expanded into the effects of land-based sources of pollution and sedimentation on coastal coral reef ecosystems of Micronesia. Yim and Steven serve as Co-Chief Scientists at the Palau International Coral Reef Center (PICRC), where they continue their research on corals and coral reef health, provide research leadership, and serve key capacity-development roles by teaching other researchers in Micronesia how to measure the effects of watershed-based discharges on coastal coral reefs. This research is part of the National Centers for Coastal Ocean Science (NCCOS) Coral Reef Ecosystem Studies/Micronesia program led by Dr. Bob Richmond at the University of Hawai'i. For more information on PICRC, visit: <http://www.picrc.org/>.

National/Headquarters

Estuarine Research Federation Hosts Special Session on Coral Disease.

The October 2005 Estuarine Research Federation Conference in Norfolk, Virginia, featured a special session on “White Diseases of Coral,” a major cause of coral mortality in many parts of the Caribbean. The session was co-organized by Drs. Caroline Rogers (USGS) and Cheryl Woodley (NOAA) under the auspices of the Coral Disease and Health Consortium (CDHC). Twenty national and international scientists from government and academia presented recent findings from field and laboratory studies of “white” diseases (e.g., white band, white plague, white pox, and others) occurring in Florida, the U.S. Virgin Islands, Puerto Rico, the Bahamas, and the Marshall Islands. A diversity of topics was covered including the ecological effects of disease, the relationship of diseases with environmental factors (i.e., high temperatures and sewage), coral histopathology, tracking virulence factors in coral pathogens, and coral-associated microbial communities as indicators of healthy and diseased corals using molecular fingerprinting and 16sRNA sequencing. Advances such as those presented here mark a new era for this emerging and challenging field of research and will require the continued efforts of multi-disciplinary research teams as represented in the CDHC.

The abstracts of this session will soon be available on the NOAA Coral Reef Information System website, www.coris.noaa.gov. For more information on coral diseases, visit:

<http://www.coris.noaa.gov/about/diseases/>.

NOAA Coral Reef Watch Gives Presentation at U.S. Climate Change Science Program Workshop.

Two of NOAA’S Coral Reef Watch (CRW) scientists participated in the workshop on “Climate Science in Support of Decision Support,” held November 14–16 in Alexandria, VA. The workshop examined the difficulties of relaying climate change science to a broad range of decision makers. At the evening poster session, Dr. Dwight Gledhill’s presentation of the Reef Calcification Index (RCI), a

product currently under development by CRW, was well received. The RCI is being developed in collaboration with NOAA’s Atlantic Oceanographic and Meteorological Laboratory (AOML) and the Rosenstiel School of Marine and Atmospheric Science National Center for Coral Reef Research (RSMAS NCORE). The RCI can be used to evaluate the integrated coral reef growth at selected reef communities by coupling a variety of remote sensing and *in situ* tools. Several parties, including the Australian Government’s Great Barrier Reef Marine Park Authority (GBRMPA) and Science Systems and Applications, Inc., expressed considerable interest in the approach and offered potential collaborations in pushing forward on the RCI development. For more information, see <http://coralreefwatch.noaa.gov>.

NOAA Coral Reef Watch Gives Presentation on Palau at Task Force Meeting.

Dr. William Skirving of NOAA Coral Reef Watch presented a talk entitled “Modeling for Management: Predicting Coral Heat-stress Patterns for Palau’s Coral Reef Ecosystem” at the U.S. Coral Reef Task Force meeting held November 4-7 in Palau. In response to a request from The Nature Conservancy (TNC), NOAA and the Australian Institute of Marine Science (AIMS) teamed to conduct a joint modeling effort to supply TNC with help in understanding the patterns of thermal stress during bleaching events in Palau. TNC will use this valuable information in the design of a protected areas network (PAN) for Palau, which is aimed at building coral reef ecosystem resilience against potential future climate change. During this talk, Dr. Skirving presented the scientific rationale behind the model along with the results of the study, and concluded with examples of how the model can be used to build resilience to coral bleaching in a changing climate. For more information, see

<http://coralreefwatch.noaa.gov>.

Recent Data Additions to CoRIS. The following data sets were recently added to the NOAA Coral Reef Information System (CoRIS): (1) NOAA Atlantic Oceanographic and Meteorological

logical Laboratory (AOML) Sustained Ecological Research Related to the Management of the Florida Keys Seascape (SEAKEYS) Near Real-time Coastal-Marine Automated Network (C-MAN) data for the Florida Keys, (2) AOML Integrated Coral Observing Network (ICON) Near Real-time data for Salt River Bay, U.S. Virgin Islands and North Norman's Reef, Bahamas (http://www.coral.noaa.gov/crw/real_data.shtml), and (3) Pacific Islands Fishery Science Center (PIFSC) Coral Reef Ecosystem Division (CRED) Benthic Ecological Assessments of Corals surveys. Presently, CoRIS has 1,093 metadata records that provide CoRIS users access to 13,912 coral-related products via the CoRIS website. In addition to new data, the CoRIS Glossary has been expanded by over 300 new terms, and the authoritative table of species and higher taxa reported in CoRIS metadata has been updated. Visit www.coris.noaa.gov to find these updates and other coral information.

CORAL REEFS IN THE NEWS

Articles mentioning NOAA

“Coral Bay, Cruz Bay Reefs at Highest Risk in Caribbean Coastal Ecosystem Study” – December 5, 2005 (*St. John Tradewinds, U.S. Virgin Islands*). “Reefs in the Coral Bay Watershed and Cruz Bay Watershed face the highest risk of land-based threats out of St. John's 11 watersheds, according [to] Laurretta Burke, of the Washington, DC-based World Resources Institute (WRI).”
http://www.stjohntradewindsnews.com/index.php?option=com_content&task=view&id=109&Itemid=38

“An early red tide concerns scientists” – December 6, 2005 (*Miami Herald*). “Scientists are trying to determine the cause and extent of a red tide algae bloom that has popped up in recent days in at least two spots along a coral reef on the ocean side of the Lower Keys.”
<http://www.miami.com/mld/miamiherald/13336909.htm>

“Senate Approves Bill to Enhance Coral Reef Conservation” – December 15, 2005 (U.S. Senate Committee on Commerce, Science & Transportation Press Release). “Late last night, the U.S. Senate unanimously approved the ‘Coral Reef Conservation Amendments Act of 2005’ (S. 1390), introduced by Senator Daniel Inouye (D-Hawai`i) and co-sponsored by Senators John Sununu (R-N.H.) and Daniel Akaka (D-Hawai`i).”
<http://commerce.senate.gov/newsroom/printable.cfm?id=249835>

“New coral conservation bill passes U.S. Senate” – December 17, 2005 (*The Associated Press in the Honolulu Advertiser and approx 4 other outlets*). “A measure to reauthorize the Coral Reef Conservation Act through 2012 and increase funding for coral reef conservation passed the U.S. Senate on an unanimous vote late yesterday.”
<http://the.honoluluadvertiser.com/article/2005/Dec/16/br/br06p.html>

“Navy to justify range to lawmakers: Opponents say sonar could affect sea animals” – December 17, 2005 (*The Associated Press in the Myrtle Beach Sun News and 1 other outlet*). “State lawmakers on Monday will hear the Navy's pitch for an anti-submarine warfare training range off the N.C. coast, which the military says won't harm sea life or commercial fishing to the degree that opponents contend.”
<http://www.myrtlebeachonline.com/mld/myrtlebeachonline/news/local/13429170.htm>

“Scientists study coral reefs in Caribbean” – December 20, 2005 (*Associated Press in Forbes and approx. 26 other outlets*). “U.S. government scientists were taking aerial photos and conducting underwater surveys to study a coral disease threatening life in the Caribbean Sea, officials said Tuesday.”
<http://www.forbes.com/technology/feeds/ap/2005/12/20/ap2405951.html>

“US Senate approves more money to protect Pacific Island coral reefs” – December 20, 2005 (*Radio New Zealand*). “Programmes to protect coral reefs in United States Pacific Islands will get a major funding boost under a bill passed by the US Senate.”

<http://www.rnzi.com/pages/news.php?op=read&id=21262>

Other articles

“State cuts number of fishing licences” – November 30, 2005 (*Fiji Times*). “Fiji has reduced the number of tuna fishing licences from 103 in 2002 to 72 this year.”

<http://www.fijitimes.com/story.aspx?id=32898>

“Reef health check gets pass mark” – November 30, 2005 (*ABC Online, Australia*).

“The Great Barrier Reef has been given a pass mark after its biennial health check by the Australian Institute of Marine Science.”

<http://www.abc.net.au/news/newsitems/200512/s1520489.htm>

“EPA, CNMI sign agreement for final closure of Puerto Rico Dump” – December 2, 2005 (*Saipan Tribune, CNMI*). “The U.S. Environmental Protection Agency and the [Commonwealth of Northern Mariana Islands] CNMI recently signed an agreement outlining the closure of the Puerto Rico Dump.”

<http://www.saipantribune.com/newsstory.aspx?cat=1&newsID=52701>

“Divers Drop the Dime on Dredgers” – December 2, 2005 (*Florida Sportsman*). “Palm Beach divers monitoring a ‘beach re-nourishment’ project for Ocean Ridge beaches recorded levels of turbidity far higher than legal limits.”

<http://www.floridasportsman.com/casts/051202e/>

“DLNR to seek Maui gill net ban” – December 2, 2005 (*Maui News, HI*). “The Department of Land and Natural Resources will pro-

pose a total ban on gill nets in the waters around Maui, while allowing the practice to continue on Molokai and Lanai, a move that would reduce significantly use of the nets that critics say deplete fish and damage reefs.”

<http://www.mauinews.com/story.aspx?id=14821>

“Setting the Pace in Marine Conservation” – December 3, 2005 (*Island Business, Fiji*). “... Fiji stole the show at last January's small islands states conference in Mauritius when it declared its 30% marine reserves commitment. ...Up until last month, the network had established 109 marine protected areas, located in 39 of Fiji's 187 districts and currently covering some 15% of Fiji's coastal areas.”

[http://www.islandsbusiness.com/islands_business/index_dynamic/containerNameToReplace=MiddleMiddle/focusModuleID=5489/overrideSkinName=issueArticle-full.tpl](http://www.islandsbusiness.com/islands_business/index_dynamic/containerNameToReplace=Mid-dleMiddle/focusModuleID=5489/overrideSkinName=issueArticle-full.tpl)

“New Environmental Research Ship Docks in Baltimore” – December 5, 2005 (U.S. Environmental Protection Agency Press Release).

“...The *Bold* helps EPA monitor areas experiencing degradation from excessive nitrification, as well as monitoring the health of coral reefs and the impacts of ecological disturbances, such as harmful algae blooms....”

<http://yosemite.epa.gov/opa/admpress.nsf/5e3004a65353d4eb852570180055ac28/b701faa22d82c66f852570ce00587d8d!OpenDocument>

“Saving the rain forests of the ocean” – December 6, 2005 (*Salon.com*). “How greens and villagers, and a bunch of big ceramic snowflakes, are reviving the devastated coral reefs of Indonesia.”

<http://www.salon.com/news/feature/2005/12/06/coral/>

“Reef Check trains region’s youth leaders” – December 11, 2005 (*SunStar Cebu*). “Development of ecotourism-livelihood skills for Region 7 youth leaders through Reef Check was conducted last Sept. 28-30 at the University of San Carlos (USC) Marine Station in Maribago,

Lapu-Lapu City.”

<http://www.sunstar.com.ph/static/ceb/2005/12/11/life/reef.check.trains.region.s.youth.leaders.html>

“‘Fish with chips’ reporting from ocean top highlights at Census of Marine Life mid-point” – December 14, 2005 (EurekaAlert press release, DC). “Revelations by high-tech tracking devices about the coastal migrations of endangered fish and of large animals in the open Pacific Ocean top the highlights from the growing ranks of researchers conducting the global Census of Marine Life at its 2005 mid-point.” http://www.eurekaalert.org/pub_releases/2005-12/com1-com120805.php

“DoE Battling Coral Reef Decline” – December 14, 2005 (Caymanian Compass). “The fight against coral decline is something the [Department of the Environment] DoE is actively pursuing, but it is no easy feat, especially with a new bout of coral bleaching in the Caribbean basin posing another potential regional problem for our reefs.” <http://www.caycompass.com/cgi-bin/CFPnews.cgi?ID=1009649>

“Midway: For the Birds” – December 16, 2005 (Hawai’i Reporter). “...Gov. Linda Lingle and a delegation of 18...traveled to Midway Atoll with a remarkable team of high-ranking U.S. officials to see first-hand the precious resources that make up the Northwestern Hawaiian Islands, and understand the necessity of preserving them.” <http://www.hawaiireporter.com/story.aspx?3c2e90f3-35f5-4572-833c-cae151b55acc>

“Lawmakers tour Northwestern atolls” – December 16, 2005 (The Associated Press in the Honolulu Star-Bulletin). “[Governor] Lingle, state and federal officials express amazement on their sanctuary fact-finding trip.” <http://starbulletin.com/2005/12/16/news/story09.html>

“Fishing ban will benefit NW islands” – Sunday, December 18, 2005 (The Associated Press in the Honolulu Advertiser). “...the Northwestern Hawaiian Islands, [are] one of the most remote and relatively undisturbed coral reef systems in the world. Almost 70 percent of the tropical, shallow water coral reefs that exist in U.S. waters are in this one place, together with 7,000 species of both marine and terrestrial life, 25 percent of which are found nowhere else on Earth.”

<http://the.honoluluadvertiser.com/article/2005/Dec/18/op/FP512180336.html>

“Lawmakers finally bite on reforming fisheries laws” – December 18, 2005 (Gainesville Sun, FL). “...The Senate Commerce, Science and Transportation Committee passed legislation last week that would update the Magnuson-Stevens Fishery Conservation and Management Act, which was last renewed in 1996 and was due for renewal in 1999.”

<http://www.gainesville.com/apps/pbcs.dll/article?AID=/20051218/LOCAL/212180309/1078/today>

“Red tide and runoff: Limiting nutrients that wash into Gulf is important but difficult” – December 18, 2005 (Herald Tribune, FL). “...the health of the Gulf of Mexico is of great importance, not just to Southwest Florida but to all the states and nations -- including Mexico and Cuba -- that border it. Red tide, like the vast offshore dead zone that it produced this year, could be a signal that policies and practices must change.”

<http://www.heraldtribune.com/apps/pbcs.dll/article?AID=/20051218/OPINION/512180748/1030/NEWS0106&Page=2>

“‘Heartbeat’ of sea found in blooms of tiny plants” – December 19, 2005 (Honolulu Advertiser). “Scientists have identified what they describe as the “heartbeat” of the ocean, a previously unknown cycle of marine fertility near Hawai’i that could be fueling fisheries in ways science has not until now recognized.”

<http://the.honoluluadvertiser.com/article/2005/Dec/19/In/FP512190316.html>

“Experts Weigh Damage by Tsunami, Humans” – December 19, 2005 (*Associated Press in the Washington Post and two other sources*).

“...The environmental devastation in the worst-hit countries is immense, yet experts say it pales in comparison with what humans had already managed to inflict before the giant waves struck on Dec. 26, 2004.”

<http://www.washingtonpost.com/wp-dyn/content/article/2005/12/18/AR2005121800397.html?sub=new>

“Seahorse Farm Offers Sanctuary, Chance for Survival” – December 20, 2005 (*Associate Press on latimes.com and approx. 7 other outlets*). “Ocean Riders in Hawaii raises the endangered creatures and seeks to spread awareness.”

<http://www.latimes.com/business/la-fi-seahorses20dec20,0,2484646.story?coll=la-home-business>

“Indonesia agrees to help illegal fishing crackdown” – December 20, 2005 (*The Age, Australia*). “Australia and Indonesia will conduct a joint investigation into allegations that international crime syndicates are launching large-scale fishing expeditions into Australian waters.”

<http://www.theage.com.au/news/national/indonesia-agrees-to-help-illegal-fishing-crackdown/2005/12/19/1134840798510.htm>

“Effects of Bleaching and Cyclones on Coral Reefs of French Polynesia” – December 25, 2005 (*CO₂ Science*). “...[I]t would appear that earth's corals may be considerably better equipped to deal with whatever climate or weather phenomena nature may bring their way than many people have thought.”

<http://www.co2science.org/scripts/CO2ScienceB2C/articles/V8/N51/B2.jsp>

“People Pose the Greatest Threat to This Delicate Marine Ecosystem” – December 25, 2005 (*Honolulu Star-Bulletin, HI*). “...The most pristine reefs [of Hawai'i] are in the uninhabited and protected Northwestern Hawaiian Islands. The decline of reef ecosystems in the main Hawaiian Islands shows clearly that, as in the rainforest, the biggest threat to the coral reef's delicate web of life is - humans.”

<http://starbulletin.com/2005/12/25/news/story06.html>

“Oh, no! A zit!” – December 25, 2005 (*Honolulu Star-Bulletin*). “Early research shows 17 types of coral disease on Hawaii reefs, but the long-term impact isn't yet known.”

<http://starbulletin.com/2005/12/25/news/story03.html>

“Amazing Creature Melds Plant, Animal and Mineral” – December 25, 2005 (*Honolulu Star-Bulletin, HI*). “Each coral animal, which is called a polyp, is made of two tissue layers, shaped like a hollow sack, with a mouth ringed by stinging tentacles. ...Inside all reef-building coral lives a tiny, single-celled alga called zooxanthellae. In a mutually cooperative agreement that meets both creatures' needs, the algae photosynthesizes its own food from the sun's energy and has enough left over to nourish the coral animal.”

<http://starbulletin.com/2005/12/25/news/story07.html>

“Scientists: Coral reefs spared worst of tsunami's effects” – December 26, 2005 (*Associated Press on Boston.com*). “...’What we found was that the effects of human activity -- overfishing, global warming -- actually had a stronger impact than the tsunami,” [Dr. Gregory Stone] said. ‘It really woke us up to what is happening to the coral reefs of the world and what people are doing to them.’”

http://www.boston.com/news/local/rhode_island/articles/2005/12/26/scientists_coral_reefs_spared_worst_of_tsunamis_effects/

“Ecologically speaking, hurricanes perform some good: Winds, water help habitats” – December 27, 2005 (*South Florida Sun Sentinel*). “...The storms and their winds, surge and rain can do some positive things while carving their widely destructive paths. They build soils in marshes, seed new patches of coral reef in the

sea and shake new life into static coastal waters among other things, scientists note.”

<http://www.sun-sentinel.com/news/local/southflorida/sfl-cphurricane-27dec27,0,3461147.story?coll=sfla-news-sfla>

UPCOMING EVENTS

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

February 2006

- 13 – 16: **4th International Conference for the Marine Ornamental Community – Marine Ornamentals 2006**. Las Vegas, NV. Abstracts due November 1, 2005. <http://www.hawaiiacquaculture.org/marineornamentals06.html>
16 – 20: **AAAS Annual Meeting**. St. Louis, MO. http://www.aaas.org/meetings/Annual_Meeting/
20 – 24: **13th Ocean Sciences Meeting**. Honolulu, HI. <http://www.agu.org/meetings/os06/>

March 2006

- 6 – 10: **World Maritime Technology Conference**. London, England. Note Technical Programme on Reefs of the World. <http://www.wmtc2006.com/technical/rw/>

April 2006

- 6 – 9: **NSTA 54th National Conference on Science Education**. Anaheim, CA. http://www.nsta.org/conventiondetail&Meeting_Code=2006ANA
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

May 2006

- 4 – 5: **15th U.S. Coral Reef Task Force Meeting**. Dates tentative. <http://www.coralreef.gov/meetings/announcements.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/>

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/>

September 2006

- 18 – 22: **Marine Technology Society and IEEE Oceanic Engineering Society Oceans Conference 2006**. Boston, MA. <http://www.oceans2006americas.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>.