

**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

**Satellite Tools and Bleaching Response Workshop Held for Puerto Rico and the Virgin Islands.** The U.S. Coral Reef Task Force (USCRTF) passed a resolution at its November 2005 meeting in Palau to mobilize efforts across the Caribbean to monitor and assess short- and long-term impacts of the 2005 warming and bleaching event. The NOAA points of contact for the interagency response are representatives from NOAA Satellites and Information and NOAA Fisheries. In order to collect more detailed information, a call for bleaching reports was sent to regional managers and researchers. So far, NOAA Coral Reef Watch (CRW) has collected almost 1,000 observations in the wider Caribbean region from 70 observers in 18 countries, states, and territories. NOAA's CRCP, CRW, and the Nature Conservancy's Eastern Caribbean office co-hosted a "Caribbean Bleaching Response Working Group" workshop in the US Virgin Islands (USVI), Jan 23 – 25, 2006. This workshop brought together scientists and marine park and reserve managers from USVI, Puerto Rico (PR), the British Virgin Islands and the French West Indies. The first half of the workshop introduced CRW's suite of satellite monitoring data products, including hands-on training designed to help reef and park managers incorporate satellite remote sensing tools into their management protocols. The second half focused on coordinating the ongoing regional response to the unprecedented 2005 bleaching event in the Caribbean. Participants reported that this bleaching is more extensive and devastating than any that has been observed previously: as much as 90% of corals bleached, with 20% mortality or greater. Further surveys are needed to document mortality by disease outbreaks after the bleaching, notably in elkhorn corals in the St. John national park. PR and USVI participants committed to developing bleaching response strategies before the Fall 2006 bleaching season. The bleaching response form and other information on the response effort and workshop,

are available at the website:

<http://coralreefwatch.noaa.gov/caribbean2005>.

For more information on the entire suite of NOAA Coral Reef Watch satellite products, see <http://coralreefwatch.noaa.gov/>.

## ANNOUNCEMENTS

**Call for Applications for the Third Annual Governor Tause P.F. Sunia Memorial Coral Reef Conservation Summer Internship.** The U.S. Coral Reef Task Force (USCRTF) is pleased to announce the Third Annual Governor Tause P.F. Sunia Memorial Coral Reef Conservation Summer Internship Award, in recognition of the late Governor's outstanding leadership in and contribution to the conservation of U.S. coral reef ecosystems. For the first time, this opportunity will be made available to students from the Freely Associated States of Palau, the Marshall Islands and the Federated States of Micronesia. This is a competitive award in which two excellent students from Guam, the Commonwealth of the Northern Mariana Islands, Hawai'i, American Samoa, the Freely Associated States (listed above), Puerto Rico, or the U.S. Virgin Islands will be selected to receive a three-month, expenses-paid summer internship working on coral reef management initiatives with an agency member of the USCRTF. In this third year, NOAA will host and sponsor the award. View the complete posting and application requirements and directions on [http://www.coralreef.gov/announcements/sunia\\_2006.pdf](http://www.coralreef.gov/announcements/sunia_2006.pdf). Application material must be received no later than February 17, 2006, 5:00PM EST.

**Report of the Dry Tortugas' Carnegie Laboratory Centennial Celebration Now Available.** As part of the Carnegie Institute's Laboratory for Marine Biology in the Dry Tortugas' Centennial Celebration, a two-day symposium was held that covered such topics as evolution and mating behavior of sharks, marine protected areas, birds, ocean circulation, and coral reefs in the Dry Tor-

tugas. The post-mortem, photographs and a list of participants in the Centennial Celebration is now available at:

<http://www.rsmas.miami.edu/conference/tortugas/>.

**First and Second Great Barrier Reef Current Conditions Reports of Summer 2005/06 Available.** The Climate Change Response Programme provides regular Great Barrier Reef conditions reports throughout the summer and publishes early warnings of increases in levels of stress or widespread coral bleaching. To read the current conditions report, visit the Great Barrier Reef Marine Park Authority (GBRMPA) website:  
[http://www.gbrmpa.gov.au/corp\\_site/info\\_services/science/climate\\_change/conditions\\_report.html](http://www.gbrmpa.gov.au/corp_site/info_services/science/climate_change/conditions_report.html).

**CSCOR Sponsors Coral Session at the 2006 ASLO Meeting.** The Center for Sponsored Coastal Ocean Research (CSCOR) announces its sponsorship of the tropical session "Coral Reef Ecosystem Research and Management Objectives (TS-E08)" at the 2006 ASLO Summer Meeting in Victoria, British Columbia. Two Program Managers will chair the session which aims to provide a forum for discussing challenges, lessons learned, and success stories that address the need for ecosystem-scale coral reef research and facilitating its application. A more detailed session description can be found at  
[www.cop.noaa.gov/ecosystems/coralreefs/workshops/mt-2006\\_aslo\\_bc.html](http://www.cop.noaa.gov/ecosystems/coralreefs/workshops/mt-2006_aslo_bc.html). Check back with the ASLO website,  
<http://aslo.org/meetings/victoria2006/index.html>, in April for the finalized meeting schedule.

**'Navigating Change' Teacher's Workshop to be Held in Hilo, Hawai'i.** A 2-day workshop on the Navigating Change Teacher's Guide was held in Hilo, Hawai'i on January 21 and 22. The mission of Navigating Change is to inspire and challenge educators and students to take actions in their classrooms and communities that perpetuate ocean and island health, thereby making Hawai'i a vital and sustainable environment for future gen-

erations. The Northwest Hawaiian Islands (NWHI) Coral Reef Ecosystem Reserve (Reserve) Education Coordinator was one of the presenters at the workshop along with State of Hawai'i, U.S. Fish and Wildlife Service, and Bishop Museum partners. The first day of the workshop introduced the five-part teacher's guide. During the second day of the workshop, teachers took a sail on a Polynesian voyaging canoe and were introduced to educational opportunities with the voyaging community in Hilo. The teacher's guide was developed by the Navigating Change partnership, of which the Reserve is a founding member. To learn more about Navigating Change, visit:  
<http://www.hawaiiireef.noaa.gov/education/NavChange.html>.

## UPDATES

### *Atlantic*

**First CREWS station in Puerto Rico, La Parguera Station, Begins Transmitting Data.** The first Coral Reef Early Warning System (CREWS) station in Puerto Rico, located at 17° 52.326' N, 67° 03.128' W, at the Media Luna Reef in the La Parguera Marine Reserve, is part of the Integrated Coral Observing Network, ICON. From January 10-15, 2006, CREWS team members worked at the site for the final installation of the station's instrumentation. The La Parguera station began transmitting data at 10:00 PM GMT, January 14, 2006. The data are collected hourly and presented daily in two report formats. All data from this station will be quality controlled at a later time and will be available through the CREWS web pages, and through NOAA's Coral Reef Information System (CoRIS) at  
<http://www.coris.noaa.gov/>. These data will also be used in the new near real-time ICON expert system, currently under development, for integrating satellite, in situ and other oceanographic data. To view the current data, visit:  
[http://www.coral.noaa.gov/crw/crw\\_data\\_lppr1Web\\_12.html](http://www.coral.noaa.gov/crw/crw_data_lppr1Web_12.html). This station has been funded through NOAA's Coral Reef Conservation

Program, and is being operated cooperatively with the University of Puerto Rico's (UPR) Department of Marine Science (Magueyes Island Research Station, <http://cima.uprm.edu/magueyes.html>) for the benefit of researchers worldwide, and for the new NOAA/UPR collaborative effort, the Caribbean Coral Reef Institute (<http://www.cop.noaa.gov/ecosystems/coralreefs/current/ccri-factsheet-cr.html>).

### **Water Quality Data Incorporated into U.S. Caribbean Coral Reef Monitoring Database.**

The National Centers for Coastal Ocean Science (NCCOS) has been characterizing and assessing fish and benthic communities throughout the U.S. Caribbean as part of the Caribbean Coral Reef Ecosystem Monitoring project since 2000. *The Status of Coral Reef Ecosystems of the United States and Pacific Freely Associated States: 2005 Report* identified coastal development run-off and pollution as severe to moderate level threats in both the U.S. Virgin Islands (USVI) and Puerto Rico. The newly incorporated water quality data will help coastal and ocean managers as they work to address these issues. The water quality measurements were added to the standard monitoring protocols for this project in 2003. At each site, surface and at-depth measurements are collected for the following parameters: temperature (°C), conductivity (mS/cm), turbidity (NTU), and chlorophyll a (mg/l). These data are now publicly accessible along with fish and benthic habitat data at:

[http://www8.nos.noaa.gov/biogeo\\_public/query\\_main.aspx](http://www8.nos.noaa.gov/biogeo_public/query_main.aspx) and on NOAA's Coral Reef Information System (CoRIS) website, at <http://www.coris.noaa.gov/>.

### **NCCOS Transfers Watershed Analysis, Data Display and Map Creation Tools to Managers at NonPoint Source Pollution Conference.**

In late November, the National Centers for Coastal Ocean Science (NCCOS) led a workshop of fifty attendees on watershed analysis, data display, and map creation in ArcView GIS at the 9th Virgin

Islands NonPoint Source Pollution Conference, "Preventing Pollution in the Caribbean, Reshaping our Communities for the Future." The goal of the conference was to drive change in common practices to improve water quality throughout the islands by increasing awareness, knowledge, and skills of regional resource managers and scientists in addressing nonpoint source pollution in the territory and the wider Caribbean. Workshop attendees, which included regional resource managers and scientists, will use the data and training to advance their own work in watershed planning and pollution prevention. The NCCOS workshop publicized the availability of Summit-to-Sea project data, demonstrated how such data may be used and displayed in GIS projects, and provided examples of how this type of data may be used in watershed analyses of pollution sources. NCCOS recently released this data in collaboration with the World Resource Institute on a CD titled "Coastal Data CD for US Caribbean – analysis of land-based sources of threat to coral reef ecosystems," and distributed approximately 100 copies at the workshop. The Data CD was developed under the Reefs at Risk/Summit-to-Sea project collaboration. The goal of this collaboration is to support improved management of coastal resources in the U.S. Virgin Islands (USVI) and Puerto Rico by developing and making available extensive spatial information on watershed-based threats to coastal ecosystems. The CD contains spatial data sets reflecting physical, environmental, and socio-economic data for the USVI and Puerto Rico, as well as estimates of vulnerability of land to erosion, and watershed-based indicators of threat from land-based sources. In addition, the CD contains technical reports on threats to coral reefs and their status in Puerto Rico and the USVI. To find out more about the Summit-to-Sea project, visit:

[http://ccma.nos.noaa.gov/ecosystems/coralreef/summit\\_sea.html](http://ccma.nos.noaa.gov/ecosystems/coralreef/summit_sea.html). Visit the conference website at: <http://usvircd.org/NPS/VINPSconf2005.index.html>.

**NCCOS Enables Tsunami Impact Modeling of Puerto Rico and the U.S. Virgin Islands by Providing Benthic Habitat and Bathymetry Data.** The National Centers for Coastal Ocean Science (NCCOS) has provided a suite of bathymetry data for the U.S. Caribbean and Pacific territories to support NOAA's National Geophysical Data Center's (NGDC's) efforts to build a comprehensive tsunami impact model. NCCOS provided multispectral Ikonos satellite imagery with infrared bathymetry, originally used for benthic habitat mapping, for Puerto Rico, the U.S. Virgin Islands (USVI), the Main Hawaiian Islands, American Samoa, Guam, and the Commonwealth of the Northern Mariana Islands (CNMI). In addition, NCCOS provided sixty square nautical miles of high resolution multibeam bathymetry, collected in 2004 and 2005 aboard the *Nancy Foster* during an integrated ocean and coastal mapping (IOCM) cruise, along with a historical bathymetry model derived from NGDC's GEOPHYSICAL DATA SYSTEM (GEODAS) archival soundings. This sharing of multi-purpose data across NOAA expands the usefulness of the information beyond its original project scope and facilitates cooperation in support of NOAA's IOCM. Once completed, the tsunami impact model will be used to plan for coastal land use and future disaster recovery efforts. Visit <http://www.ngdc.noaa.gov/seg/hazard/tsu.shtml> and <http://www.nccos.noaa.gov/stressors/extremeevent/welcome.html> to learn more.

**Florida Bay Characteristics Used to Predict Mercury Bioaccumulation Hotspots in the Gulf of Mexico and Florida.** The National Centers for Coastal Ocean Science (NCCOS) are developing methods to identify coastal areas with high mercury concentrations in fish. This will allow coastal managers to take remedial action and limit consumption that endangers human health. NCCOS research has documented the high mercury concentrations in fish from eastern Florida Bay. Effective mercury methylation, oligotrophy,

shallow depth, and limited physical flushing were identified as important characteristics contributing to high mercury concentrations. Initial application of data from NOAA's National Estuarine Eutrophication Assessment identified several estuaries likely to have high mercury concentrations because of their shallow depth and poor flushing. Efforts are underway to incorporate measures of oligotrophy and mercury methylation potential in this predictive model. Existing data from NOAA's National Status and Trends Program and the Environmental Protection Agency's (EPA) database "The Occurrence of Mercury in the Fishery Resources of the Gulf of Mexico" (<http://www.epa.gov/gmpo/mercury.html>) are being employed to test these predictions. For background information on this issue, read: <http://www.nccos.noaa.gov/news/feature/0903.html>.

**Flower Garden Banks Coral Bleaching Update.** A survey conducted from January 3-4, 2006 has revealed that coral bleaching is still present in the East and West Flower Garden Banks, but much reduced compared to surveys conducted in October and November 2005. The average number of coral colonies still affected by bleaching ranged from 4.5% (West Flower Garden) and 10.3% (East Flower Garden). This is compared to an average of 42% in October, and 46% in November. Of the species affected, only *Millepora alcicornis* and *Montastrea cavernosa* had colonies that were considered still 'totally bleached' (1.3%), with most species scored as 'partially bleached'. Only *M. alcicornis* displayed mortality related to bleaching, but over 50% of the surveyed colonies of that species contained areas of dead tissue. *M. alcicornis* is not a dominant component of the living coral community, comprising less than 2% of the total. Video was taken along each transect but has not yet been analyzed. Water temperature during the January survey was 74 °F (23 °C). An observation of significant concern is an increased occurrence of coral colonies displaying symptoms consistent with that of 'white plague' coral disease. In the previous bleaching surveys no disease was noted.

During the January survey, slightly over 2% of the coral colonies within the transect displayed 'white plague' symptoms, and additional colonies were observed in the vicinity. 'White plague' symptoms were noted on *Colpophyllia natans*, *Diploria strigosa*, *Montastrea annularis*, *Montastraea faveolata*, and *Montastraea franksi*. Additional surveys will be conducted in the coming weeks to monitor the status of bleaching and disease. For more information on the ongoing monitoring project, visit:

<http://flowergarden.noaa.gov/research/monitor.html> or

[http://www.gomr.mms.gov/homepg/regulate/envir/flow\\_gar/flowgard.html#ONGOING%20MONITORING%20EFFORT](http://www.gomr.mms.gov/homepg/regulate/envir/flow_gar/flowgard.html#ONGOING%20MONITORING%20EFFORT). To learn more about coral diseases, visit:

<http://coris.noaa.gov/about/diseases/welcome.html>.

**NOAA Fisheries Conducts Bleaching Assessment off Southwest Puerto Rico.** NOAA Fisheries Southeast Fisheries Science Center (SEFSC) and Habitat Conservation (HC) conducted a rapid ecological assessment (REA) of stony corals and fish assemblages off southwestern Puerto Rico in December, 2005 to assess the extent of bleaching. Seventy surveys were completed in 30 locations off Mayaguez, Boqueron, La Parguera, Guayanilla, Mona Island and Desecheo Island. Data were collected within belt transects on coral species diversity, abundance, size, extent of recent and old partial mortality, degree of bleaching and associated tissue loss, causes of mortality and patterns of recovery. Fish surveys, over the same transects, documented reef fish assemblages to compare changes in habitat values. Of nearly 4,500 corals examined, over 38% of the corals were still fully bleached, while 35% had normal coloration. Patchy bleaching affected 27% of the colonies. In contrast, approximately 73% of the live coral cover was still fully bleached at these sites and only 2.8% did not show any signs of bleaching. These differences are largely related to colony size: colonies that were not bleached were primarily smaller in size, especially those species

that are relatively short-lived, while the dominant members of the community and the largest corals (e.g., *Millepora annularis* complex) showed a higher degree of bleaching. *Agaricia* and *Millepora* spp. sustained the highest levels of total colony mortality attributed to bleaching, while many of the massive species including the *M. annularis* complex, *Diploria* spp. and *Colopophyllia* showed signs of partial mortality. *Meandrina meandrites*, *Eusmilia fastigiata* and *Dichocoenia stokessi* appeared to be the most resistant to bleaching at these sites. Other coral diseases were observed on bleached corals, including low levels of 'black-band' disease at most sites and an outbreak of 'white plague' in La Parguera. To read more about these offices and their work with coral, or to read more about coral disease, visit

<http://www.nmfs.noaa.gov/habitat/>,

<http://www.sefsc.noaa.gov/reefteamprojects.jsp>,

<http://www.coris.noaa.gov/about/diseases/welcome.html>, and

<http://www.nmfs.noaa.gov/habitat/ead/disease.htm>.

**SEFSC Briefs Partners on SeaMester *Acropora* spp. Monitoring Program in BVI.** A researcher from the Southeast Fisheries Science Center (SEFSC) traveled in early January to the British Virgin Islands (BVI) to initiate a fiscal year 2006 project on *Acropora* spp. monitoring in the Eastern Caribbean. The purpose of the trip was to brief partner researchers in the SeaMester program on *Acropora* spp. monitoring protocols which SEFSC has designed and implemented in the Florida Keys. SeaMester is an undergraduate educational program which circuits the Eastern Caribbean each semester on an 80' sloop and will be setting up permanent *Acropora* spp. monitoring sites in several locations along its route. Monitoring sites at two locations in the BVI were established during the SEFSC visit. SEFSC is also documenting this demographic (i.e. colony-based) monitoring approach in a manual which will be made available to interested researchers within the year. To learn more about *Acropora* spp., visit: <http://waquarium.otted.hawaii.edu/MLP/root/pdf/>

[MarineLife/Invertebrates/Cnidarians/AcroporaCoral.pdf](#) and <http://en.wikipedia.org/wiki/Acropora>.

To learn more about the SeaMester programs, visit: <http://www.seamester.com/index.php>.

### **Caja de Muertos Habitat Use Study Complete.**

The Caribbean Field Office of the NOAA Fisheries Southeast Region Habitat Conservation Division announces the completion of the habitat use study for the Caja de Muertos Natural Reserve in Puerto Rico. This study contains details of the benthic habitat distribution within the Reserve, including Cayo Berberia, and human use of habitats within the Reserve. The report also contains management recommendations for consideration by the Department of Natural and Environmental Resources, the entity responsible for the conservation of marine habitats within the Reserve. To view the abstract and report details, visit:

<http://www.coris.noaa.gov/library/?Search=Caja%20de%20Muertos%20;rec=1>.

### **Bilingual Display Completed for Vieques Interactive Educational Exhibit.**

With CRCP funding through the NOAA Fisheries Habitat Conservation Division Caribbean Field Office, the Vieques Conservation and Historic Trust (VCHT) has completed a bilingual display at their facilities to instruct visitors about the diversity of marine life in the waters around Vieques. The exhibit includes a touch tank with laminated information sheets and photos identifying the organisms on display, as well as waterproof booklets that can be taken in the field to identify some of the marine organisms in the waters around the coral keys and in the seagrass beds and mangrove forests of Vieques. To find out more about the VCHT, visit: <http://www.vcht.com/>.

### *Pacific*

**Special Delegation Visits Midway Atoll.** In December of 2005, a special delegation of policy makers, resource managers and federal government representatives visited Midway Atoll. The delegation included the director of the National

Marine Sanctuary Program, Dan Basta, Acting Northwestern Hawaiian Islands (NWHI) Coral Reef Ecosystem Reserve (Reserve) Coordinator, 'Aulani Wilhelm, State of Hawai'i Governor Linda Lingle, Jim Connaughton of the White House Office of Environmental Quality, Admiral Charles Wurster of the US Coast Guard, Jean Michel Cousteau of the Ocean Futures Society and National Marine Sanctuary Foundation, Hawai'i State Senator Fred Hemmings, and Peter Young, Chair of the State of Hawai'i Department of Land and Natural Resources. For most of the delegation, this was their initial first-hand experience of the NWHI. "These are key people at the national level — and Cousteau at an international level — who can make a big difference for us as we try to get the federal government to create this marine sanctuary in a way that allows the state to remain a partner," said Lingle prior to the trip. The State of Hawai'i has been working closely with the Reserve through the sanctuary designation process and recently established a marine refuge in the NWHI. To learn more about the Reserve and the designation process, visit: <http://hawaiireef.noaa.gov/>. To learn more about Midway Atoll, visit: <http://www.fws.gov/midway/intro/default.htm>.

### **Northwestern Hawaiian Islands Coral Reef Ecosystem Reserve Celebrates its Fifth Birthday.**

On January 25, the Northwestern Hawaiian Islands (NWHI) Coral Reef Ecosystem Reserve (Reserve) celebrated the fifth anniversary of its founding by Executive Orders with a birthday party held at the Reserve office. The focus of the evening event was to thank guests for their efforts to protect the living resources of the NWHI. These supporters included past and present advisory council members and reserve staff, National Marine Sanctuary (NMS) colleagues, agency partners, members of key constituencies, non-governmental conservation groups, contractors and community members. The celebration invited guests to look back at the work of establishing the Reserve and its early phase of growth, and also to

look forward to the work that lies in the busy year ahead as the Reserve's designation process advances to completion. The event was sponsored by the National Marine Sanctuary Foundation. Visit the Reserve's website to learn more: <http://0-hawaiireef.noaa.gov.library.unl.edu/>.

**PIFSC Coral Reef Ecosystem Division to Survey Remote U.S. Equatorial Islands and American Samoa with Local Partners.** The NOAA Ship *Hi'ialakai* departed Honolulu on January 15, 2006 with a team of scientists for an 84-day Reef Assessment and Monitoring Program (RAMP) cruise of remote U.S. islands in the equatorial and south central Pacific Ocean, including American Samoa, Johnston Atoll, Howland and Baker Islands, and Jarvis, Palmyra, and Kingman Reef. The expedition is part of the biennial monitoring effort in the region by the Coral Reef Ecosystem Division (CRED) of the Pacific Islands Fisheries Science Center (PIFSC), and is a collaborative study between NOAA scientists, local scientists and managers, the U.S. Fish and Wildlife Service, and other key partners. Teams of specialists will assess the status of fishes, corals, algae and marine invertebrates using underwater survey techniques; conduct multi-beam-based benthic habitat mapping using both the NOAA ship and the 26 ft research vessel *R/V AHI*; and collect oceanographic data by conducting underwater acoustic surveys and deploying several monitoring platforms. To read more about this RAMP cruise, visit <http://www.pifsc.noaa.gov/cruise/hi0602.php>. To learn more about both vessels involved in this cruise, and benthic habitat mapping, visit: [http://www.soest.hawaii.edu/pibhmc/pibhmc\\_map\\_ping.htm](http://www.soest.hawaii.edu/pibhmc/pibhmc_map_ping.htm).

#### International

**Successful Deployment of Oceanographic Equipment to Heron Island, Australia.** As a part of continuing collaborations between NOAA Coral Reef Watch (CRW) and the Australian Institute of Marine Science (AIMS) in the southern

Great Barrier Reef, a CRW scientist participated in a research expedition in early December, 2005. Oceanographic instruments were deployed in the vicinity of Heron Island to monitor currents, temperature, waves and salinity. The instruments will be recovered in April of 2006. This project is an extension of the coral bleaching prediction model, developed for Palau by NOAA and AIMS, that was presented to the U.S. Coral Reef Task Force (Palau, November 2005). This work will also contribute to CRW's development of regional satellite products. For more information on the entire suite of NOAA Coral Reef Watch satellite products, see <http://coralreefwatch.noaa.gov/>.

#### National/Headquarters

**Coral Reef Management Fellowship Program Places 2005-2007 Fellows.** The Coral Reef Management Fellowship Program has placed fellows in five jurisdictions to support island coral reef management efforts. Fellows were placed in American Samoa, the Commonwealth of Northern Mariana Islands, Guam, Hawai'i, and Puerto Rico. Fellows traveled to their respective islands following an orientation meeting in Honolulu, Hawai'i, January 16-20, 2006. The host agency supervisors from each jurisdiction also attended the orientation meeting, at which the fellows and supervisors learned about fellowship policies and procedures, attended an inter-cultural communication training, and worked together to begin developing two-year project plans. The fellows also received professional development training, which focused on facilitative leadership, meeting management, and communication skills. To learn more about this program or to read the 2005-2007 project descriptions for each jurisdiction, visit: <http://www.csc.noaa.gov/cms/assistants/>.

**Major Improvements to CoRIS Library and NOAA Activities Sections Complete.** Coral publications are much easier to find in the newly renovated Library ([www.coris.noaa.gov/library](http://www.coris.noaa.gov/library)) pages of NOAA's Coral Reef Information System (CoRIS). The improved system provides capabil-



ity for integrated searches of 950 publications, journal papers and Web sites. Collections can be searched or browsed. In addition, the “NOAA Activities” section of CoRIS was also recently updated and reorganized. Users can now browse descriptions of all categories of CRCP activities. Visit <http://www.coris.noaa.gov/> to check out these exciting improvements.

## CORAL REEFS IN THE NEWS

### *Articles mentioning NOAA*

**“Northwest Isles Face Critical Year: Federal Sanctuary Status Proposed for the Refuge Could Ban or Even Expand Fishing” – December 26, 2005** (*Associated Press in Honolulu Star-Bulletin*). “...Over the next year, the National Oceanic and Atmospheric Administration will be developing rules for managing the waters of the island chain under a proposed sanctuary status, which could prohibit or even expand fishing and activities such as coral and lobster harvesting.” <http://starbulletin.com/print/2005.php?fr=/2005/12/26/news/story07.html>

**“Funding for Virgin Islands Coral Reef Projects Renewed” – January 7, 2006** (*CDNN, Virgin Islands*). “The Virgin Islands coral reef projects is about to receive a shot in the arm with an infusion of federal funds.” <http://www.cdn.info/news/eco/e060107.html>

**“Net Gains” – January 14, 2006** (*Honolulu Star-Bulletin*). “A New Program Eases Disposal of Derelict Fishing Gear Found at Sea.” <http://starbulletin.com/2006/01/14/news/story06.html>

**“Northwestern Hawaiian Islands Enter Critical Year for Protection” – January 16, 2006** (*Associated Press on Environmental News Network and approx. 30 other outlets*). “...While the islands have been protected for nearly a century as a refuge, the surrounding reefs are entering a

critical year for their protection in 2006.” <http://www.enn.com/today.html?id=9643>

**“Staghorn Coral Restoration Project to Help Upper Keys” – January 18, 2006** (*The Nature Conservancy Press Release*). “The Nature Conservancy’s Florida Keys program is transplanting fragments of wild staghorn coral to restore degraded reefs in the Upper Keys with the help of a \$36,000 grant awarded by the National Oceanic and Atmospheric Administration (NOAA).” <http://nature.org/wherewework/northamerica/states/florida/press/press2229.html>

**“NOAA Finds 2005 Vying for Hottest Year: UCS Releases Assessment on Global Warming’s Role in Record Breaking Temperatures” – January 19, 2006** (*Kansas City Star infoZine*). “The National Oceanic and Atmospheric Association (NOAA) recently announced that 2005 might edge out 1998 as the hottest year on record.” <http://www.infozine.com/news/stories/op/storiesV/iew/sid/12454/>

**“Scientists to Study Coral Reefs Worldwide: Marine Scientists Going Down for the Count” – January 23, 2006** (*Scripps press release and approx. 4 other sources*). “Three world-class oceanographic research institutions today announced a collaboration to conduct a global census of coral reef ecosystems aimed at estimating the numbers of reef species and determining their vulnerability to human stressors.” [http://scrippsnews.ucsd.edu/article\\_detail.cfm?article\\_num=711](http://scrippsnews.ucsd.edu/article_detail.cfm?article_num=711)

**“Scientist Details NOAA’s Efforts to Combat Coral Bleaching” – January 24, 2006** (*Virgin Islands Daily News*). “National Oceanic and Atmospheric Administration scientist William Skirving can spot a warming ocean from miles away.” [http://www.virginislandsdailynews.com/index.pl/article\\_home?id=12496038](http://www.virginislandsdailynews.com/index.pl/article_home?id=12496038)

*Other articles*

**“NOAA Scientist: 2005 Coral Bleaching Unprecedented” – January 25, 2006** (*Virgin Islands Daily News*). “National Oceanic and Atmospheric Administration scientists on Tuesday confirmed that coral bleaching in the Caribbean basin last summer was the most extensive and severe they have seen since they began collecting satellite data more than 20 years ago.”

[http://www.virginislandsdailynews.com/index.pl/article\\_home?id=12539304](http://www.virginislandsdailynews.com/index.pl/article_home?id=12539304)

**“Divers Needed for Project: Staghorn Gets Transplanted in Upper Keys” – January 25, 2006** (*Florida Keys Keynoter*). “The Nature Conservancy's Florida Keys program is transplanting fragments of wild staghorn coral to restore degraded reefs in the Upper Keys with the help of a \$36,000 grant awarded by the National Oceanic and Atmospheric Administration.”

<http://www.keynoter.com/articles/2006/01/25/living/liv03.txt>

**“Gulf Coast Reefs Stressed by Rita, Warm Waters” – January 27, 2006** (*Associated Press in Newsweek* and approx. 77 other outlets). “Hurricane Rita's pounding waves and a hotter-than-usual Gulf of Mexico took a toll on the Gulf of Mexico's only government-protected coral reefs about 100 miles off the Louisiana and Texas coasts.” <http://msnbc.msn.com/id/11057204/>

**“Panel Leaders Flunk U.S. Ocean Policies” – February 2, 2006** (*Associated Press in CBS News* and approx. 6 other outlets). “Leaders of two expert commissions that spent years examining the nation's ocean policies give the Congress, Bush administration and governors a near-failing grade for not moving quickly enough to address hundreds of their recommendations.”

<http://www.enn.com/today.html?id=9643>

**“Reef's Continued Downfall Dismays Divers, Scientists: They Blame a Sewage Pipe that Pumps Treated Waste into the Gulf Stream” – January 3, 2006** (*Palm Beach Post*). “...[M]ore than three years after a group of divers notified state environmental officials that a growth of pollution-fed algae was suffocating the reef, help has yet to arrive.”

[http://www.palmbeachpost.com/pbcentral/content/local\\_news/epaper/2006/01/03/m1a\\_REEF\\_0103.html](http://www.palmbeachpost.com/pbcentral/content/local_news/epaper/2006/01/03/m1a_REEF_0103.html)

**“Predator Fish Help Coral Reefs Rebound, Study Shows” – January 5, 2006** (*National Geographic News* and 1 other outlet). “The return of a top predator in a Bahamas marine reserve is proving unexpectedly beneficial to coral reefs there, according to a new study.”

[http://news.nationalgeographic.com/news/2006/01/0105\\_060105\\_reef\\_fish.html](http://news.nationalgeographic.com/news/2006/01/0105_060105_reef_fish.html)

**“Reef Faces New Threat of Bleaching” – January 5, 2006** (*The Courier-Mail, Australia*). “An increase in water temperature of just 1.5 per cent on the Great Barrier Reef will spark disastrous coral bleaching within a month, scientists have warned.”

[http://www.thecouriermail.news.com.au/common/story\\_page/0,5936,17730826%255E3102,00.html](http://www.thecouriermail.news.com.au/common/story_page/0,5936,17730826%255E3102,00.html)

**“UQ Researchers Working to Prevent a Coral Bleaching Catastrophe” – January 6, 2006** (*UQ News Online, Australia*). “Researchers at The University of Queensland are racing against time to lessen the damage from a coral bleaching incident about to hit the Great Barrier Reef.”

<http://www.uq.edu.au/news/?article=8748>

**“A Reef With a View: Coral is Even More Fun than Fish, Some Aquarium Lovers Say” – January 6, 2005** (*The Tennessean*). “When asked to name their favorite pet, most people would say ‘cat’ or ‘dog.’ Gary Flatness of Goodlettsville enthusiastically replies, ‘reef.’”

<http://www.rctimes.com/apps/pbcs.dll/article?AID=/20060106/FEATURES11/601060361/1004/MT/CN0303>

**“Fishing, Trophic Cascades, and the Process of Grazing on Coral Reefs” – January 6, 2006 (*Science Magazine*).** “...[Scientists] compare the negative impacts of enhanced predation with the positive impacts of reduced fishing mortality on parrotfishes inside reserves.”

<http://www.sciencemag.org/cgi/content/abstract/311/5757/98> (Only abstract available to those without *Science* subscription.)

**“Complexities of Coral Reef Recovery” – January 6, 2006 (*Science Magazine*).** “...[M]arine protected areas have emerged as a potentially powerful means for managing reefs within the world's changing oceans. ...Under ideal conditions, marine protected areas should also increase fish stocks in adjacent areas as well, through the movement of species and larvae from the protected areas.”

<http://www.sciencemag.org/cgi/content/summary/311/5757/42> (Only abstract available to those without *Science* subscription.)

**“One Long Year Later, Red Tide Still Here: Destructive Effect of Gulf Coast Bloom has Drawn Renewed attention to the Problem” – January 7, 2006 (*Herald Tribune, FL*).**

“Over the past year, one of the worst red tide blooms in the state's history has been blamed for a 2,000-square-mile dead zone and more than 600 fish kills from the Panhandle to the Keys.”

<http://www.heraldtribune.com/apps/pbcs.dll/article?AID=/20060107/NEWS/601070423>

**“The Forest of the Sea” – January 7, 2006 (*The Manila Times, Philippines*).** “Coral reefs are critical marine habitats that provide a significant contribution to the functioning of the earth's ecosystem.”

<http://www.manilatimes.net/national/2006/jan/07/yehey/opinion/20060107opi5.html>

**“Florida's Deep-sea Gardens: Hidden Treasure Lies off our Coasts, Full of Life and Needing Protection” – January 8, 2006 (*Herald Tribune, FL*).** “...Divers who have seen the coral reef at Pulley Ridge off Florida's west coast say it's like landing in an impressionist painting. Researchers say it is probably unique on earth.”

<http://www.heraldtribune.com/apps/pbcs.dll/article?AID=/20060108/NEWS/601080369>

**“How Marine Reserves are Giving Coral Reefs a Helping Hand” – January 8, 2006 (University of Exeter Press Release and approx. 4 other outlets).** “It may be no surprise that marine reserves protect the fish that live in them, but now scientists from the University of Exeter have shown for the first time that they could also help improve the health of coral reefs.”

<http://www.exeter.ac.uk/news/newsmarine.shtml>

**“Marine Aquarium Council Spreads Range” – January 10, 2006 (*Practical Fishkeeping, United Kingdom*).** “...MAC's Certification Programme trains local communities to catch tropical marine aquarium fishes and corals sustainably, and without the use of cyanide, and provides a level of traceability so importers, and eventually fish dealers can buy fish safe in the knowledge that they know where they come from and how they have been caught.”

<http://www.practicalfishkeeping.co.uk/pfk/pages/item.php?news=811>

**“Tabu Waters: Protecting Fiji's Great Sea Reef” – January 11, 2006 (World Wildlife Foundation's [www.panda.org](http://www.panda.org)).** “...Fiji is leading the pack of coastal nations by committing to the establishment of a network of marine protected areas (MPAs) by 2020. The area, covering 30 per cent of its territorial waters or 39 million hectares, will be the largest system of underwater sanctuaries in the world.”

[http://www.panda.org/news\\_facts/newsroom/index.cfm?uNewsID=55580](http://www.panda.org/news_facts/newsroom/index.cfm?uNewsID=55580)

**“Pedro Cays Clean-up - Tons of Garbage to be Removed; Plan for Long-term Maintenance” – January 11, 2006 (*Jamaica Gleaner*).** “The Pedro Bank Management Project aims to reduce coral reef degradation by providing solutions to two main threats - over-fishing and degradation of coral reefs and coral cays, due to unsustainable development.” <http://www.jamaica-gleaner.com/gleaner/20060111/news/news3.html>

**“Film on Coral Reefs Brings to Fore Fragile Nature” – January 12, 2006 (*The Financial Express, India*).** “Nature lovers can look forward to viewing the breathtakingly coral islands in India filmed by a group of city-based environmentalists on Friday at Brihan Maharashtra College of Commerce (BMCC).” [http://www.financialexpress.com/latest\\_full\\_story.php?content\\_id=114283](http://www.financialexpress.com/latest_full_story.php?content_id=114283)

**“New Satellite Monitoring Tools Prepare for Major Coral Bleaching Event” – January 12, 2006 (*UQ News Online, Australia*).** “Following on news that a coral bleaching incident is rapidly developing on Australia's Great Barrier Reef, University of Queensland researchers are working with NASA to understand what this event means for the world's oceans.” <http://www.uq.edu.au/news/?article=8758>

**“Photo Exhibit of Rare Hawaiian Flora and Fauna to be Shown at National Geographic Museum” – January 13, 2006 ([www.webwire.com](http://www.webwire.com)).** “An exhibition of stunning images of rare plants and animals of the North-western Hawaiian Islands, made by legendary fine-art photographers and award-winning environmentalists David Liittschwager and Susan Middleton, will be held at the National Geographic Museum at Explorers Hall from Jan. 25 to May 29.” <http://www.webwire.com/ViewPressRel.asp?ald=7988>

**“Council Could Alter Rules for Isle Fishing: Agencies Solicit Feedback on Plans to Limit Bottom-fishing” – January 16, 2006 (*Honolulu Star-Bulletin*).** “Trying to allow Hawai'i's bottom-fish stocks to replenish, government agencies propose changing the rules on when and where fishing is allowed -- and are seeking fishers' input.” <http://starbulletin.com/print/2005.php?fr=/2006/01/16/news/story04.html>

**“A Warming World: The Difference a Degree Makes: Survival of a Reef” – January 17, (*San Francisco Chronicle*).** “...At one time, the Castros joined the throngs of people fishing the 7-mile-long reef. But in the last decades, they stopped taking sea life from the ocean nursery. Instead, they take scuba divers to it.” <http://www.sfgate.com/cgi-bin/article.cgi?file=/c/a/2006/01/17/MNGG0GOFQ11.DTL>

**“Sensors Watch Barrier Reef Coral” – January 17, 2006 (*BBC News, United Kingdom*).** “With the ecology of coral reefs around the globe increasingly under pressure, scientists on Australia's Great Barrier Reef are establishing a network of sensors to better understand this beautiful part of the underwater world.” <http://news.bbc.co.uk/1/hi/technology/4618086.stm>

**“Coral Reefs Get Sensors” – January 18, 2006 (*All Headline News, Australia*).** “Scientists on Australia's Great Barrier Reef are using sensors to monitor the changes on the reef. The Australian Institute of Marine Science (AIMS) is working with James Cook University on the project called Digital Skins, according to BBC news.” <http://www.allheadlinenews.com/articles/7001970022>

**“Starfish Threaten Great Coral Reef” – January 18, 2006 ([www.999today.com](http://www.999today.com)).** “The crown-of-thorns starfish (COTS) is the greatest threat to the Great Barrier Reef, new research suggests.” <http://www.999today.com/environment/news/story/2580.html>

**“Small Grant Opportunities for CNMI Teachers” -- January 19, 2006 (*Saipan Tribune, Commonwealth of Northern Marianna Islands*).** “...Several small grants of up to \$2,500 each are available for projects to enhance public awareness and involvement in protecting and restoring coral reefs in the CNMI.” <http://www.saipantribune.com/newsstory.aspx?cat=1&newsID=54088>

**“Bleached Coral Raises Reef Fears” – January 20, 2006 (*The Age, Australia*).** “Coral on the Great Barrier Reef is bleaching and scientists fear the above-average water temperatures will devastate the southern part of the natural wonder.” <http://www.theage.com.au/news/national/bleached-coral-raises-reef-fears/2006/01/19/1137553712171.html>

**“Scientists Discover That Groundwater Brings Nutrients—and Possibly Contaminants—to Coral Reef Ecosystems” – January 20, 2006 (*Stanford Report*).** “Coffee drinkers may be unknowingly sharing their double lattes with coral reefs, according to Stanford University researchers who have studied the effect of groundwater discharge on coastal oceans.” <http://news-service.stanford.edu/news/2006/january25/coral-012506.html>

**“Sex on the Reef: Darryl Leniuk Dives into an Annual One-night Stand With the Great Barrier's Spawning Corals” – January 21, 2006 (*Globe and Mail, Australia*).** “...One night each year, a few days after the full moon in late November (or early December), when tides are small and conditions optimal, hundreds of species of

coral reproduce en masse on the Great Barrier Reef.”

<http://www.theglobeandmail.com/servlet/story/RTGAM.20060121.wxcoral0121/BNStory/specialTravel/>

**“Taiwanese Rebuilding Their Ties to the Oceans” – January 21, 2006 (*Taipei Times, Taiwan*).** “Taiwanese people are becoming more aware of the need to preserve the nation's ocean resources, as is illustrated by the recent breakthrough for the coral reef conservation movement when the residents of Green Island refused to allow the fishing industry to continue using electric shock fishing methods.” <http://www.taipeitimes.com/News/editorials/archives/2006/01/21/2003290085>

**“Kiamba Moves to Conserve Marine Resources” – January 23, 2006 (*Sun Star, Philippines*).** “In a bid to further conserve the biodiversity of the protected Tuka Marine Park and its municipal waters, the local government unit implemented an ordinance imposing a fine to anyone who destroy its aquatic resources.” <http://www.sunstar.com.ph/static/gen/2006/01/23/news/kiamba.moves.to.conserve.marine.resources.html>

**“Planners Seek More Artificial Reefs: Gulf Structures Offer Meeting Spots for Anglers, Fish” – January 23, 2006 (*Houston Chronicle*).** “The Recreational Fishing Alliance has announced its intention to spearhead a program that would expand Texas' artificial reef system.” <http://www.chron.com/disp/story.mpl/outdoors/pike/3607591.html>

**“Coral, Mangroves Good for Economy” – January 25, 2006 (*BBC News, United Kingdom*).** “Coral reefs and mangroves are worth protecting for economic reasons, contributing as much as \$1m per sq km to tropical economies.” <http://news.bbc.co.uk/2/hi/science/nature/4646166.stm>

**“Scientists Discover New Coral Killer in V.I. Waters” – January 26, 2006 (*Virgin Islands Daily News*).** “....As ocean temperatures dropped, the bone-white coral reefs that had been cooking in the overheated waters for more than 10 weeks began to regain their critical algae partners - green creeping back into the transparent tissue wrapped over ivory-colored skeletons.”

[http://www.virginislandsdailynews.com/index.pl/article\\_home?id=12577839](http://www.virginislandsdailynews.com/index.pl/article_home?id=12577839)

**“Reef Etiquette PSA for Visitors on Aloha Airlines” – January 27, 2006 (*Environmental News Network*).** “Aloha Airlines Director of Communications Mr. Stu Glauberman confirmed today that Aloha Airlines will start to show the PSA on all incoming flights to Hawai‘i as of February 1st. The Hawai‘i Reef Etiquette PSA precisely yet whimsically teaches visitors how to enjoy, respect and preserve our Hawaiian reefs. The PSA encourages action and shows viewers that ‘you can make a difference’.”

<http://enn.com/aff.html?id=1102>

**“Hurricanes Shape New Natural Order” – January 29, 2006 (*The Associated Press on ABC News and approx. 92 other outlets*).**

“...Everywhere scientists look, they see disrupted patterns in and along the Gulf of Mexico. Coral reefs, flocks of sea birds, crab- and shrimp-filled meadows and dune-crowned beaches were wrapped up in and altered by the force of hurricanes Katrina, Rita and Dennis.”

<http://abcnews.go.com/Technology/wireStory?id=1555506&CMP=OTC-RSSFeeds0312>

**“Sensitive Deep Sea Coral Reefs Protected for the First Time in the Mediterranean” – January 30, 2006 (*World Wildlife Foundation’s www.panda.org*).** “Three ecologically-important deep sea areas have been protected off the waters of Italy, Cyprus and Egypt, following a recent decision by the General Fisheries Commission for the Mediterranean (GFCM).”

[http://www.panda.org/news\\_facts/newsroom/index.cfm?uNewsID=57840](http://www.panda.org/news_facts/newsroom/index.cfm?uNewsID=57840)

**“Beyond the Coral Reefs - A Polyps Plight” – January 31, 2006 (*Cayman Net News, Cayman Islands*).** “With the diverse assortment of plants, colors, brightly scaled fishes and many other sea creatures dancing around coral reefs - as if to the beat of a calypso song, it is little wonder that this has become a significant part of our natural tourism product. But this “post card” perfect site has been under siege for a number of years from man-made threats to natural disasters.”

<http://caymannetnews.com/2006/01/1019/reefs.shtml>

**“Why Australia's Multicoloured Reef Coral is Now a Bleach Blond” – February 1, 2006 (*The Times, United Kingdom*).** “Visitors to the Great Barrier Reef may soon be confronted with a blanched wasteland as a rapid rise in sea temperatures threatens to bleach thousands of miles of corals, scientists gave warning yesterday.”

<http://www.timesonline.co.uk/article/0,,3-2019085,00.html>

**“Australia's Reefs Face Bleaching Risk” – February 1, 2006 (*Associated Press in CBS News and approx. 40 other outlets*).** “A bout of coral bleaching hitting Australia's Great Barrier Reef could be as bad as an episode in 2001-2002 that affected 60 percent of the reef, scientists warned Tuesday.”

<http://www.cbsnews.com/stories/2006/02/01/ap/tech/mainD8FG1ARG0.shtml>

**“Ministry Warns of Strict Action Against Polluters” – February 1, 2006 (*Gulf Times, Qatar*).** “Fishermen and boat owners have been asked to take particular care of coral reefs and pearl beds.” [http://www.gulf-times.com/site/topics/article.asp?cu\\_no=2&item\\_no=71065&version=1&template\\_id=36&parent\\_id=16](http://www.gulf-times.com/site/topics/article.asp?cu_no=2&item_no=71065&version=1&template_id=36&parent_id=16)

**“New Chance for Florida's Coral Reefs” – February 1, 2006** (*Miami Herald* and approx. 1 other outlet). “...[The Tortugas Reserve] creates a marine park where human impact is limited, where fish are allowed to grow to their maximum size and reproduce successfully without being harvested, where the coral-reef ecosystem has a chance to regain its health.”

<http://www.miami.com/mld/miamiherald/news/opinion/13760719.htm>

**“Global Pioneers in Marine Conservation: 2006 Pew Fellows in Marine Conservation” – February 1, 2006** (Pew Institute for Ocean Science press release). “The winners of the 2006 Pew Fellowship in Marine Conservation were announced today by the Pew Institute for Ocean Science.”

<http://www.pewoceanscience.org/press/press-article.php?ID=44>

**“UH Scientist is Awarded \$150,000 for Reef Work: The Coral Researcher Earns the Prestigious Pew Fellowship” – February 1, 2006** (*Honolulu Star-Bulletin*). “Bob Richmond, research professor at the University of Hawaii-Manoa's Kewalo Marine Laboratory, has received the premier international award in marine conservation for working to preserve Pacific coral reefs.”

<http://starbulletin.com/2006/02/01/news/story09.html>

**“Private Initiative to Rehab Sarangani Bay Doing Well” – February 2, 2006** (*MindaNews, Philippines*). “A private initiative to rehabilitate the marine environment around Sarangani Bay by a group of scuba divers has surpassed targets, the proponents dropping 1,353 artificial coral reefs nine months since the start of the project.”

<http://www.mindanews.com/2006/02/02news-coralreef.htm>

**“Ghostly Reefs Force Marketing Twist” – February 2, 2006** (*The Sunday Times, Australia* and approx. 7 other outlets). “Blanched coral wastelands could soon become new dive attrac-

tions as the Great Barrier Reef teeters on the brink of widespread bleaching.”

[http://www.sundaytimes.news.com.au/common/story\\_page/0,7034,18017454%255E421,00.html](http://www.sundaytimes.news.com.au/common/story_page/0,7034,18017454%255E421,00.html)

**“Northern Reefs Next in Line for Bleaching” – February 2, 2006** (*ABC News Online* and approx. 3 other outlets). “Scientists say north Queensland reefs are next in line to be hit by coral bleaching.”

<http://www.abc.net.au/news/newsitems/200602/s1560266.htm>

**“Endangered in the Deep 'Coral Reef' Explores Damage, Threats to Fragile Ecology” – February 3, 2006** (*The Arizona Republic*). “... [Coral's] not doing well in some parts of the world. And that's a problem, according to a new film at the Arizona Science Center, because coral reefs hold great potential for medical cures and are home to millions of fish that feed a billion people a year.”

<http://www.azcentral.com/arizonarepublic/arizonaliving/articles/0203family0203.html>

**“Erosion Concerns Minister” – February 3, 2006** (*Fijivillage.com, Fiji*). “Measures will now be put in place to prevent coastline erosion in the Coral Coast area caused by increased nutrient levels.”

[http://www.fijivillage.com/artman/publish/article\\_26782.shtml](http://www.fijivillage.com/artman/publish/article_26782.shtml)

**“Reef Shade Structures Almost a Reality” – February 3, 2006** (*The Sydney Morning Herald, Australia* and approx. 9 other outlets). “Shade-cloth structures protecting parts of the Great Barrier Reef could be commercially available to tourist operators within a year.”

<http://www.smh.com.au/news/National/Reef-shade-structures-almost-a-reality/2006/02/03/1138836393855.html>

**“Coral for Cash: Now a thriving business for Tagaqe villagers” – February 4, 2006 (*Islands Business, Fiji*).** “...By one estimate, there are globally at least 1.5 million tropical aquarium hobbyists—mostly in the United States—the world’s greatest live rock market...When coral reef conservation-minded United States authorities banned the collection of live rock from local sources, the trade turned to sources abroad.”

[http://www.islandsbusiness.com/fiji\\_business/index\\_dynamic/containerNameToReplace=MiddleMiddle/focusModuleID=5599/overrideSkinName=issueArticle-full.tpl](http://www.islandsbusiness.com/fiji_business/index_dynamic/containerNameToReplace=MiddleMiddle/focusModuleID=5599/overrideSkinName=issueArticle-full.tpl)

**“Rebuilding Asia’s Coastal Barrier” – February 5, 2006 (*The New Nation, Bangladesh*).** “In the wake of the December 2004 tsunami, the Indian Ocean nations affected are admitting that the damage was partially self-inflicted. Over the past 20 years, these countries have systematically destroyed one of the most effective barriers to ocean forces - mangrove forests - in the name of development.”

[http://nation.ittefaq.com/artman/publish/article\\_25310.shtml](http://nation.ittefaq.com/artman/publish/article_25310.shtml)

**“Reef 'Gone in 20 Years'” – February 6, 2006 (*The Sunday Mail, Australia and approx. 6 other outlets*).** “Marine scientists say global warming could transform the Great Barrier Reef into a bleached maze of dead coral within 20 years.”

[http://www.thesundaymail.news.com.au/common/story\\_page/0,5936,18051647%255E421,00.html](http://www.thesundaymail.news.com.au/common/story_page/0,5936,18051647%255E421,00.html)

**“Flagler Joins List of Reef Memorial Sites” – February 6, 2006 (*Daytona Beach News-Journal Online*).** “...Eternal Reefs Inc. has chosen Flagler as the next site for a memorial reef partly made of cremated human remains, known as cremains. The remains are mixed with concrete and formed into balls that are designed to encourage growth of coral and vegetation, providing habitat for sea life.” <http://www.news->

[journalonline.com/NewsJournalOnline/News/Headlines/frtHEAD03020606.htm](http://journalonline.com/NewsJournalOnline/News/Headlines/frtHEAD03020606.htm)



## UPCOMING EVENTS

If you have events you would like listed in future newsletters, please contact [coralreef@noaa.gov](mailto:coralreef@noaa.gov).

### February 2006

13 – 16: **4<sup>th</sup> 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/](http://www.aaas.org/meetings/Annual_Meeting/)

20 – 24: **13<sup>th</sup> 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 54<sup>th</sup> National Conference on Science Education**. Anaheim, CA.

[http://www.nsta.org/conventiondetail&Meeting\\_Code=2006ANA](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>

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](http://www.tfilearning.com/tfi/c/portal_public/layout?p_1_id=27.28)

### May 2006

4 – 5: **15<sup>th</sup> U.S. Coral Reef Task Force Meeting**. Dates 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/>

29 – 31: **3<sup>rd</sup> 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/>

September 2006

10 – 14: **American Fisheries Society 136<sup>th</sup> 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/>

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](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](http://www.ird.nc/biodec/english/home_page.html)

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

[www.gcfi.org](http://www.gcfi.org)

**Questions, comments?**

Contact [coralreef@noaa.gov](mailto: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>.

