

**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://coralreef.noaa.gov/news/welcome.html>.

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## ANNOUNCEMENTS

### **NOAA Co-hosts Two Sunia Summer Interns.**

Established by the [U.S. Coral Reef Task Force](#) (Task Force) in 2004, the Governor Tauese P.F. Sunia Memorial Coral Reef Conservation Scholarship recognizes the late Governor of American Samoa's outstanding leadership in and contribution to U.S. coral reef conservation. This competitive internship is intended to continue the late Governor's legacy by providing outstanding college or university students with the chance to work at the headquarters of Federal agencies involved in coral reef management and policy. Each year, two promising scholars from the U.S. insular areas and Hawai'i receive a unique opportunity to gain valuable, professionally formative experience in coral reef conservation policy and management while also contributing to the overall efforts of the hosting agencies and the CRTF. This year's Sunia Scholarship runs from June 3 – August 10.

Semoya Phillips of the University of the Virgin Islands and Austin Shelton of Hawai'i Pacific University are the recipients of the 4th Annual Sunia Scholarship. Austin and Semoya both have coral ecosystem science backgrounds. Austin's work includes research on the oceanic carbon system and acidity of Kaneohe Bay and co-authoring a published abstract presented at the 2006 Oceanographer's Convention in Honolulu. Semoya is conducting morphometric analyses of *Porites* corals as a [National Science Foundation](#) Historically Black Colleges and Universities Undergraduate Program (HBCU-UP) Fellow and managing a coral mesocosm at the [McLean Marine Science Center](#).

During their tenure in D.C., they will be co-hosted by the Department of the Interior's [Office of Insular Affairs](#) (DOI OIA); the Task Force Secretariat Office managed by the National Oceanic and Atmospheric Administration's [Coral Reef Conservation Program](#) (CRCP); and by the

U.S. Fish and Wildlife Service [National Wildlife Refuge System's](#) coral reef coordinator. The DOI OIA is funding the Scholarship on behalf of the CRTF. Both students will spend their summer internship working on coral reef policy and management projects which include: reviewing data on coral marine protected areas, planning for the [International Year of the Reef 2008](#), and assisting with coordinating the next Task Force meeting. They will work closely with the National Wildlife Refuge System, the NOAA CRCP, and the Task Force Secretariat. Through meeting and interviewing each of the Task Force Member Steering Committee Points of Contact, they will gain a better understanding of the federal government and the specific, coral-related mission of each of the 12 Task Force -member agencies. These students will gain a better understanding of the Task Force its individual Federal agency members, and policy dynamics specific to our U.S. jurisdiction's coral reef ecosystems including the scientific research conducted, management and policy schemes implemented, and the human elements involved in effective ecosystem-based management.

**'Managing Marine Protected Areas in Times of Change' Workshop Report Now Available Online.** The report on the workshop, '[Managing Protected Areas in Times of Change—Leadership in Governance](#)', which was held in Anguilla in November 2006, is now available Online.

**Olympic Coast 2006 Deep Sea Expedition Now Online.** NOAA's Office of Ocean Exploration (OE) recently posted [expedition logs](#) for the Olympic Coast 2006 Exploration for Deep-Sea Coral Communities off the coast of Washington State. This information is also available with a little more background material on the [Olympic Coast National Marine Sanctuary](#) (OCNMS) [Web site](#). The 2006 Olympic Coast cruise was important for several reasons: 1) Large aggregations of the deep scleractinian *Lophelia pertusa* were identified and sampled on the

Washington Coast. *Lophelia* is thought to be rare in the Pacific; 2) Large colonies of *Primnoa* sp. and *Paragorgia* sp. gorgonian corals were found in relatively shallow (100-650m) nearshore waters along the continental shelf; and 3) Some of these colonies were found broken, overturned, and/or wrapped in fishing gear. These findings influenced the designation of some of these areas as essential fish habitats, thus closing them to fishing.

**New CREWS Station in Jamaica.** The [Atlantic Oceanographic and Meteorological Laboratory](#) (AOML) is pleased to announce that as June 7, a new AOML [Coral Reef Early Warning System](#) (CREWS) station began transmitting data. The [station](#) is located at West Fore Reef, in Discovery Bay, Jamaica. CREWS stations are part of the [Integrated Coral Observing Network](#) (ICON) of *in situ* and virtual environmental monitoring stations/sites, which currently number over 120. Instruments at this site include those for measuring air temperature, winds, barometric pressure, precipitation, light above and below the water, sea temperature, salinity, and pCO<sub>2</sub>. Satellite data acquired for this site include measurements for sea temperature from two sources and wind speed. Model data from the [Hybrid Coordinate Ocean Model](#) (HYCOM) include sea temperature, salinity and winds. This project has been supported through the [Mainstreaming Adaptation to Climate Change](#) (MACC) project, the [Caribbean Community Climate Change Centre](#), [World Bank/GEE](#), the [Caribbean Community](#) (CARICOM), the University of the West Indies, and NOAA. Many other partners have also been extremely helpful in this project, including especially personnel from the [University of Miami/Rosenstiel School for Marine and Atmospheric Sciences](#) (RSMAS).

**Time Series Data Now Available Online for 24 CRW Virtual Stations.** Time series data of NOAA [Coral Reef Watch's](#) (CRW) operational product suite from year 2000 to present are now available [online](#) (click on 'data'). These data include the twice-weekly near-real-time 50-km

satellite sea surface temperature (SST), SST anomaly, Bleaching HotSpot, and Bleaching Degree Heating Weeks, for 24 selected reef sites, or virtual stations, around the globe. Previously, only the graphs of the time series were posted online.

**CRW Data Now Available Through ReefBase Online GIS:** The [WorldFish Center's ReefBase Project](#) just launched a new generation online geographic information system (GIS). As part of NOAA [Coral Reef Watch's](#) (CRW) ongoing partnership with ReefBase, a suite of 2001-present satellite coral bleaching monitoring products are now available through the new online GIS, including annual and monthly mean sea surface temperature (SST) and SST anomalies, annual and monthly maximum SST, Bleaching HotSpots, and Bleaching Degree Heating Weeks (DHW). New monthly and annual data will be delivered to ReefBase on monthly basis. Also available is near-real-time satellite bleaching monitoring information for CRW's 24 virtual stations.

## UPDATES

### *Atlantic*

**FGBNMS Long-term Monitoring Cruise.** The annual [Flower Garden Banks National Marine Sanctuary](#) (FGB) Long-term Monitoring Cruise will take place next week. Contractors PBS&J, Geo-Marine, Inc., and [Dauphin Island Sea Lab](#), will collect long-term monitoring data at the East and West Flower Garden Banks study sites, including repetitive photo station images, video transects, fish, lobster, and sea urchin surveys, as well as small coral cores.

**SEFSC Cruise to Pulley Ridge and South Atlantic Bight.** [Southeast Fisheries Science Center](#) (SEFSC) researchers will conduct a research cruise to Pulley Ridge and the South Atlantic Bight marine protected areas (MPAs) August 13-27 in support of benthic mapping and habitat/fish assemblage characterization work.

They will use the [National Aeronautics and Space Administration](#) (NASA) vessel *M/V Liberty Star* and a remotely operated vehicle (ROV) from the [National Undersea Research Center at the University of Connecticut](#) (NURC-UConn). The cruise travel plans allow the researchers to visit two additional sites, St Lucie Hump and the East Hump MPAs, for ROV data collection. Additionally, a tentative agreement with the Teacher-at-Sea program includes plans to have one or two teachers join the cruise.

#### **Deep Coral Research Cruise at Gray's Reef.**

The first leg of this year's *R/V Nancy Foster* cruise began this week in [Gray's Reef National Marine Sanctuary](#) (GRNMS) after Tropical Storm Barry passed through the area. The first leg of the cruise is devoted to mapping areas within proposed Deepwater Coral Habitat Areas of Particular Concern off the East coast of Florida to support [South Atlantic Fisheries Management Council](#) objectives. The [National Undersea Research Center \(NURC\) at Wilmington](#) is supporting the efforts with their Autonomous Underwater Vehicle (AUV), while the *Foster's* multibeam system will also enhance the work.

**Ciguatera Response Cruise in FGBNMS.** A team from the University of Texas Medical Science Institute (UTMSI), will be conducting sampling at the [Flower Garden Banks National Marine Sanctuary](#) (FGBNMS) this week. The sampling cruise is being conducted in response to the confirmation of ciguatera poisoning of a fisher resulting from consumption of a toxic gag grouper caught at the sanctuary. This effort is a collaboration between the National Marine Sanctuary Program's Damage Assessment and Resource Protection office, FGBNMS, UTMSI, and the [Food and Drug Administration](#) (FDA).

**Second Cruise of Hurricane Impacts Project Searches for Damage at New Sites.** From May 20-23, [Flower Garden Banks National Marine Sanctuary](#) (FGBNMS) staff participated in the

second phase of a research project to investigate the status of reefs and banks impacted by hurricanes Katrina and Rita in 2005. The initial cruise was conducted April 29-May 2. This portion of the project utilized a remotely operated vehicle (ROV) to collect benthic transect data in deeper waters to the east of the FGBNMS to assess impacts and recovery of hurricane damage. The ROV, a "Seabotix LBV300" was purchased for the project by the [Minerals Management Service](#) (MMS) and may be available for future use by the sanctuary. No major signs of hurricane impacts were observed at Geyer or McGrail banks, but significant physical injury was documented at Sonnier Bank. While it is probable that much of this injury was caused by the hurricanes, there is some evidence of other potential impacts, such as anchor damage. All of the subject banks have been suggested by the public as potential expansion areas for the sanctuary in its ongoing [management plan review](#).

**NCCOS Characterization of Contaminants Levels in Vieques Supports Restoration Activities.** Between 1940 and 2003, portions of the island of Vieques, Puerto Rico were used for the storage and firing of munitions for military training purposes. Scientists from NOAA's [National Centers for Coastal Ocean Science](#) (NCCOS) traveled to Vieques from May 13-30 to characterize contaminants in nearshore waters around the island via the collection of sediments, coral tissues, and water samples. Using NOAA's [National Status and Trends Program](#) (NS&T) protocols, and working in close cooperation with NOAA's [Office of Response and Restoration](#) (OR&R), the sediments and coral samples will be analyzed for over 150 chemical contaminants. Sediments will also be analyzed for the presence of 15 compounds used in munitions; these are termed "energetics." Lastly, the water samples will also be analyzed for nutrients. Results from the analyses will be incorporated into an integrated assessment that will help target

[restoration efforts](#) and facilitate management of the valuable marine resources around Vieques.

**Habitat Assessment to Support Management of Marine Resources in Vieques.** To enhance conservation efforts, scientists from NOAA's [National Centers for Coastal Ocean Science](#) (NCCOS) recently completed a two-week field mission to collect detailed information about the abundance and spatial distribution of benthic habitats, fish, corals, invertebrates, and marine debris at 75 hardbottom sites around Vieques, Puerto Rico. The results will be part of an integrated assessment to support effective management and conservation of marine resources in Vieques, and will enable an evaluation of Vieques' coral reef ecosystems in the context of other reef systems in Puerto Rico and the U.S. Caribbean. The results will be made available to the Vieques community and the public via the Internet and in reports. NCCOS scientists also collaborated with scientific divers from the [U.S. Fish and Wildlife Service](#) to survey queen conch at 24 submerged vegetation sites around Vieques. For more information, visit the project [Web site](#).

**NCCOS-supported Study Informs Army Corps of Engineers and Managers on Coral Reef Impacts in Hawai'i.** The results of a [Coral Reef Ecosystems Studies](#) (CRES) project in Micronesia that is supported by NOAA's [National Centers for Coastal Ocean Science](#) (NCCOS) served as the basis of a seminar hosted recently by the [U.S. Army Corps of Engineers](#) (ACOE). The Corps' Honolulu District held the seminar, titled "*Sediment Impacts to Coral Reefs*," on May 11 to help educate the District's employees, customers, contractors, and sponsors to improve reef management. ACOE project managers and technical staff learned about the impacts that upland and instream activities have on Pacific Ocean coral reefs. Experts from the [University of Hawai'i](#) and [Hawai'i Department of Land and Natural Resources](#) discussed research findings of the potential impacts that upland and instream

actions have on coral reefs, as well as adaptive management techniques to minimize those impacts.

**Monitoring at Looe Key Reef SPA.** In May, the [Southeast Fisheries Science Center](#) (SEFSC) mapped *Acropora* on the Looe Key Sanctuary Preservation Area (SPA) fore-reef and a portion of the west-end back reef. *A. cervicornis* appeared to have declined since last mapped in 2000, but *A. palmata* appeared healthy. Numerous grouper and at least two large *Carcharhinid* reef sharks were observed cruising the reef over the span of two days. Reef fish sampling was completed on the four restored spurs at the [R/V Columbus Iselin](#) grounding site and in undamaged reference areas. The restored area was easily distinguished by difference in algal cover compared to other reef areas. Only one algae-eating long-spined sea urchin, *Diadema*, was observed in fore-reef transects. At the Newfound Harbor SPA, numerous black grouper, Nassau grouper, and a Goliath grouper were observed. In transects, a total of 25 *Diadema* were recorded, mostly on the west patch.

**OE "Twilight Zone" Expedition to the Cayman Islands.** NOAA's [Office of Ocean Exploration](#) (OE) sponsored the "[Twilight Zone](#)" expedition to the Cayman Islands from May 21 – 31. This expedition provided an opportunity for scientists to explore unique deep communities in a fascinating area shared by shallow-reef and deep-sea organisms. The explorers were looking for unusual and unique species of hard and soft corals, sponges, and fish among the deeply incised cliffs that quickly drop into the depths of the Cayman Trench. The team used advanced deep-water SCUBA diving techniques to film the habitat and to collect samples of organisms to assess for potential biotechnological uses, including the potential for producing new disease fighting drugs. The habitats explored will be assessed in terms of biodiversity and health as a prelude to

understanding requirements for conserving and managing these very fragile ecosystems.

### Pacific

**Papahānaumokuākea Kicks off Education Roundtable.** On May 24<sup>th</sup>, the [Papahānaumokuākea Marine National Monument's Mokuḗpapa Discovery Center](#) hosted the inaugural meeting of its Education Roundtable. The Roundtable was comprised of a dozen teachers, ranging from early elementary to the university level, with interests in marine sciences. A talented array of teachers from both private and public schools donated their time to come and discuss how the Monument can better serve local schools in the future. In addition, the teachers provided input on content for what they deemed the most useful potential Monument poster. The Roundtable will meet on a quarterly basis and communicate via email on a regular basis. The first meeting met with great enthusiasm from the teachers and was a wonderful beginning to this important group. The Monument has already begun to benefit from their shared knowledge. To thank the teachers for their generosity, the Monument is providing a school bus to teachers for an aquatic field trip.

**MARAMP Cruise Completed.** Scientists from the [Coral Reef Ecosystem Division](#) (CRED) of NOAA's [Pacific Islands Fisheries Science Center](#) (PIFSC), and from partner agencies in the Commonwealth of the Northern Mariana Islands (CNMI) and the Territory of Guam, successfully completed the biennial program to monitor U.S. coral reef ecosystems of the western Pacific, the [Marianas Reef Assessment and Monitoring Program \(MARAMP\) Cruise](#). During a series of three cruises from April 19 to June 9, the coral reef ecosystems at Wake, Guam, Rota, Tinian, Aguijan, Saipan, Sarigan, Zealandia Bank, Guguan, Alamagan, Pagan, Agrihan, Asuncion, Maug, Supply Reef, and Uracus were monitored using [Rapid Ecological Assessments](#) (REA), [towed diver](#), oceanographic and multibeam survey

methods. REAs were focused on fish, corals, algae, and macro-invertebrates, while towed diver surveys were focused on large fish, macroinvertebrates, and broad-scale habitats. Oceanographic observations, including spatial surveys and recovery/deployment of [moored instruments](#) were conducted around all islands. Comprehensive multibeam [mapping](#) of the moderate depth habitats around all Northern Mariana Islands was completed. . More information on CRED's Pacific-wide monitoring program and results from previous surveys are available [here](#); read a blog for the cruise [here](#).

**NWFSC Developing Deep Coral Species Inventory.** The [Northwest Fisheries Science Center](#) (NWFSC) has begun developing a species inventory and repository of genetic material for deep-sea corals. The inventory will begin with species known to occur off the northwest Pacific coast and is a first step to understanding the ecology and distribution of deep-water corals in U.S. waters. The team is creating a DNA sequence repository of coral species and will link the sequences to species identified through traditional morphological methods. To date, the project has gathered approximately 90 specimens of deep-water corals from a number of sources, including [Monterey Bay Aquarium Research Institute](#), Los Angeles County Museum, and [Olympic Coast National Marine Sanctuary](#). Approximately 350 additional specimens were gathered from the NMFS 2006 Groundfish Survey; these have yet to be entered into the system. The project, conducted in collaboration with [Fisheries and Oceans Canada](#) and the [Alaska Fisheries Science Center](#), will also contribute its data to the [DNA Barcode of Life](#), an affiliation of the [Census of Marine Life](#) project. The repository will serve not only as an essential resource for deep-coral researchers and other stakeholders, but also as a foundation for future research efforts at the NWFSC aimed at understanding the biogeography and ecology of deep-coral species in deep-sea communities.

### International

**SPRFMO Interim Measures Adopted.** The Third International Consultation on the Establishment of a [South Pacific Regional Fisheries Management Organization](#) (SPRFMO) was held in Reñaca, Chile from April 30 – May 4. The group made progress in its discussions on the text of a convention establishing a SPRFMO and agreed on interim measures relating to bottom fishing in the South Pacific, among other things. The bottom fisheries generally will be limited to the specifications in the December 2006 United Nations General Assembly Resolution 61/105 on Sustainable Fisheries. In addition, a prohibition on increases in catch or effort in areas currently fished or the opening of new areas, unless specified conditions are met, was added to the interim measures. They take effect September 30 of this year, and remain in effect until conservation and management measures are implemented under the agreement. The provisions will help protect valuable seamount and deep coral habitats in the region that have not yet been damaged by fishing.

**NOAA Supports U.S. Input to UN FAO on Vulnerable Marine Ecosystems.** The 2006 [United Nations \(UN\) General Assembly Sustainable Fisheries Resolution](#) called upon states and regional fisheries management organizations to ensure the sustainable management of fish stocks and protection of vulnerable marine ecosystems (VMEs). As a first step, the [U.N. Food and Agriculture Organization](#) (FAO) will host a series of workshops and consultations to develop technical guidelines for the management of deep sea fisheries on the high seas, including standards and criteria for identifying VMEs and the impacts of fishing on such ecosystems. The first of these [workshops](#) will be held June 25 – 29 in Rome. NOAA developed a draft U.S. issues paper and provided FAO with names of U.S. experts who can participate in the expert consultations.

### National/Headquarters

**NOAA Holds Part I of Internal IYOR 2008 Planning Workshop.** On May 30, the National Ocean Service's (NOS) [Special Projects Office](#) (SP) and [Coral Reef Conservation Program](#) (CRCP) hosted Part I of a workshop to begin planning NOAA's contributions to the 2008 [International Year of the Reef](#) (IYOR 2008). IYOR 2008 will be a year-long campaign of events and activities hosted by a wide range of government and nongovernmental organizations around the world to raise awareness of the importance of coral reef ecosystems and the threats they face; IYOR 2008 will highlight important activities that are underway, as well as those that are needed. This workshop featured presentations on major updates to efforts in the International, [U.S. Coral Reef Task Force](#), and NOAA arenas, as well as engaging in an initial discussion on what is needed for coordination of NOAA's contributions. Part II of the workshop, which will focus on discussions of ideas generated by several offices across NOAA, will be held on June 19 at 2pm EST and will be followed by monthly progress meetings. IYOR 2008 is an important opportunity for NOAA to highlight its coral reef related activities and provide leadership for the U.S. and international IYOR campaigns.

**Ocean Acidification Presentation at the Annual System Review Conference.** A [Coral Reef Watch](#) (CRW) scientist attended the NOAA Climate Observation Division 5th Annual System Review held on June 5 in Silver Spring, MD. The workshop included presentations by various NOAA offices on climate observations. CRW presented a short talk on "Ocean Acidification of the Greater Caribbean Region 1996 - 2006" as part of the [National Environmental Satellite, Data, and Information Service](#) (NESDIS) Science Team presentation. The talk addressed modeling sea surface carbonate chemistry in the Caribbean and changes in surface chemistry over the past decade.

**CRW Attends Coral Disease Modeling Workshop at Cornell.** Staff from the [Coral Reef Watch](#) (CRW) program attended a coral disease modeling meeting at Cornell University in Ithaca, NY, from June 3 - 5. The meeting was hosted by the World Bank/Global Environment Facility [Coral Reef Targeted Research and Capacity Building](#) (CRTR) Program, and was attended by members of the Disease and Remote Sensing working groups from the US, Mexico, Australia, and Great Britain. The primary goal was to make tangible progress on understanding the effects of climate change, coral diseases, and local conditions on marine protected areas in the Caribbean. CRW will be providing sea surface temperature (SST) data, climatologies and work with others on the team to develop metrics that relate winter and summer SSTs to disease outbreaks. Several experimental metrics were suggested and preliminary evaluation of these at the meeting showed great promise. Further work will evaluate these to determine which metrics may be used to forecast the potential for coral disease outbreaks through combined physical/biological models. This work will help develop an SST predictor of the potential for coral disease outbreaks, building on work already underway at CRW.

**New Data in CoRIS.** See page 12.

## CORAL REEFS IN THE NEWS

### Articles Mentioning NOAA

**[“Senate Commerce Committee Works to Protect Nation’s Oceans, Coastline”](#) – June 7, 2007 (U.S. Senate Committee on Commerce, Science, and Transportation press release on <http://commerce.senate.gov>, DC).** “In honor of Capitol Hill Ocean Week 2007, the Chairman, Vice Chairman, and several other members of Senate Committee on Commerce, Science, and Transportation joined to introduce a group of bills

today that provides for sustainable use and protection of our nation’s ocean and coastal areas.”

**[“Tiny Island Makes Climate a Priority”](#) – June 4, 2007 (National Public Radio’s All Things Considered on [www.npr.org](http://www.npr.org), DC).** “Palau, a tiny island nation about 600 miles southeast of the Philippines, boasts incredible biodiversity and some of the world’s best diving – and it is on the frontline of the global warming debate....As part of the *Climate Connections* series, Robert Siegel talks with Tommy Remengesau, the president of Palau, about his nation’s challenge and solutions he has enacted.”

**[“Marine Institute to Host Visiting Ocean Explorers”](#) – May 28, 2007 (Cayman Net News, Cayman Islands).** “Between Monday 21 May and Thursday 31 May a team of technical divers is working at the Little Cayman Research Centre to understand the connections between our shallow coral reefs that are common to recreational divers and reefs at extreme depths (100 – 300ft)....The “Cayman Twilight Zone” project was recently selected by NOAA as one of their Signature Projects because of the popular nature of the research.”

### Other Articles

**[“Military Operation Cleans Out Tire Reef”](#) – May 8, 2007 (United Press International on [www.sciencedaily.com](http://www.sciencedaily.com), MD).** “The U.S. Army, Navy and Coast Guard have teamed up to remove hundreds of thousands of tires dumped off the coast of Fort Lauderdale, Fla., 30 years ago. Nearly 2 million tires were dumped into the ocean in the 1970s in a failed attempt to create an artificial reef, the *South Florida Sun-Sentinel* reported Friday.”



**“Aqaba’s Artificial Reef Safe Haven to Fragile Marine Species”** – June 8, 2007 (*The Jordan Times, Jordan*). “Beneath the pristine waters of this Red Sea resort, a concrete paradise is giving Mother Nature and the local fishing community a helping hand.”

**“Coral Reefs and Mangroves Vital for Islanders”** – June 6, 2007 (*The National, Papua New Guinea*). “The Secretariat of the Pacific Regional Environment Programme (SPREP) has called on its members to strengthen the conservation of coral reefs and mangroves to improve adaptation to climate change.”

**“Bali Suffers Global Warming Effects”** – June 5, 2007 (*Malaysia Sun, Malaysia*). “...Experts say climate change is hitting Bali’s coral reefs hard, turning once vibrant diving locations into bleached shadows of their former glory.”

**“Deadline Nears for Living Reef Awards”** – June 5, 2007 (*Honolulu Advertiser, HI*). “The Coral Reef Outreach Network is accepting entries for its third annual Hawaii Living Reef Awards. The awards program honors businesses, organizations and community leaders that have, through their actions, demonstrated significant care to protect and nurture Hawai`i’s coral reef ecosystem.”

**“DENR Raises Alarm vs Starfish”** – June 5, 2007 (*Philippine Information Agency press release on [www.pia.gov.ph](http://www.pia.gov.ph), Philippines*). “Environment Secretary Angelo Reyes yesterday warned the public, particularly people in coastal areas, against an outbreak of giant starfish that destroy marine ecosystems with their voracious appetite for corals.”

**“Aqaba Divers Concerned About Coral Damage, Safety”** – June 4, 2007 (*The Jordan Times, Jordan*). “...A prime attraction for divers worldwide and a key resource for tourism, Aqaba’s diving sites that contain some of the world’s most

pristine coral reefs, are drawing criticism from several groups that expressed shock and dismay at their current condition.”

**“Sandals/Beaches on Rescue Mission for Coral Reefs”** – June 3, 2007 (*The Jamaica Observer, Jamaica*). “Sandals and Beaches Resorts in the St Ann/St Mary region have launched a monthly drive to rid coral reefs in the area of garbage and debris, while monitoring their rate of depletion.”

**“Coastal Villagers to Benefit from Undersea Coral Farms”** – June 2, 2007 (*The Fiji Times, Fiji*). “Tourists arriving in Suva on Monday are expected to be among the first people to buy Fiji’s latest eco-friendly product farmed coral. ... The corals, grown by villagers of Motoriki in the Lomaiviti Group, are the product of an ongoing corals for conservation initiative co-ordinated by Partners in Community Development Fiji (PCDF).”

**“Farm Practices Hurting Great Barrier Reef: Researcher”** – June 1, 2007 (*Australian Broadcasting Corporation on [www.abc.net.au](http://www.abc.net.au), Australia*). “A four-year study of Queensland’s coastline has found farming and development are damaging coral reefs. Researchers have studied 200-year-old coral skeletons from the Great Barrier Reef to chart changing water quality.”

**“Saving Reefs From Misuse: Coral Reef Alliance (CORAL) Releases First Regional Sustainable Marine Tourism Business Standards”** – May 31, 2007 (*Coral Reef Alliance press release on [www.world-wire.com](http://www.world-wire.com), CA and approx. 7 other sources*). “The Coral Reef Alliance (CORAL) today announced the release of their ‘Voluntary Standards for Marine Recreation in the Mesoamerican Reef System.’ This guide provides marine tourism businesses, bulk purchasers of visitor excursions, and tourists with tested standards that will prevent recreational overuse and misuse of coral reefs.”

**“Corals Reveal Impact of Land Use”** – May 31, 2007 (*UQ News, Australia*). “Using the corals on the Great Barrier Reef (GBR) as a history book, researchers have linked land use along the coast to decades of declining water quality and poor coral health.”

**“Leadership Award for Hon Anote Tong”** – May 30, 2007 (*Conservation International press release in Matangi Tonga, Tonga*). “Kiribati President, The Honourable Anote Tong has been presented with an Outstanding Conservation Leadership Award by Conservation International (CI) in recognition of his global leadership in protected areas with the declaration of the Phoenix Islands Protected Area (PIPA) in March 2006.”

**“Invasive Algae Blooms”** – May 27, 2007 (*The Maui News, HI*). “When state aquatics biologist Russell Sparks goes diving in Maalaea he sees a slippery, slimy invasive algae growing on the reef that was once healthy coral.”

**“Fading Beauty Under the Sea”** – May 27, 2007 (*Trinidad and Tobago Express, Trinidad and Tobago*). “Dr Owen Day, director of the Buccoo Reef Trust (BRT), believes there is still time for coral species to adapt to climate change. ‘There are signs that some species, like the Elkhorn Coral (*Acropora palmata*) doesn't seem to be affected by bleaching. If that species can adapt to climate change it gives us hope that other species can adapt as well,’ he said.”

## UPCOMING EVENTS

### July 2007

1 – 5: **Society for Conservation Biology, 21<sup>st</sup> Annual Meeting**. Port Elizabeth, South Africa. <http://www.nmmu.ac.za/scb/>

17 – 21: **First International Sclerochronology Conference 2007**. St. Petersburg, FL.

<http://conference.ifas.ufl.edu/sclerochronology/>

22 – 26: **Coastal Zone '07**. Portland, OR.

<http://www.csc.noaa.gov/cz/index.html>

### August 2007

20 – 23: **18<sup>th</sup> U.S. Coral Reef Task Force Meeting**. Pago Pago, American Samoa. Look for detail at

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

in the future.

27 – 29: **Bleaching Tools Workshop**. Pago Pago, American Samoa.

### September 2007

25 – 28: **European Symposium on Marine Protected Areas**. Murcia, Spain.

<http://www.mpasymposium2007.eu/index.html>

## New Data in CoRIS.

Product Name	Description
Coral Reef Ecosystem Division (CRED), NOAA Pacific Islands Fisheries Science Center, Tethered Optical Assessment Device (TOAD) Video Data American Samoa	Optical validation data were collected using a Tethered Optical Assessment Device (TOAD), an underwater sled equipped with an underwater digital video camera and lights. Data were collected to support Benthic Habitat Mapping efforts. These data provide optical observations that will be correlated with bathymetry and acoustic backscatter imagery to develop a benthic habitat maps.
Sample Link: <a href="http://www.coris.noaa.gov/metadata/records/html/cred_toad_ofu_olosega_2004.html">http://www.coris.noaa.gov/metadata/records/html/cred_toad_ofu_olosega_2004.html</a>	
Coral Reef Ecosystem Division (CRED), NOAA Pacific Islands Fisheries Science Center, Surface Temperature Recorder Time Series Northwestern Hawaiian Islands 2004-2006	Data from CRED Subsurface Temperature Recorder (STR) provides a time series of water temperature at reef sites. Data is typically collected at 1200 second or 1800 second intervals using a SBE Model 39 from Seabird Electronics Inc. Data from prior to the deployment date/time and after the recovery date/time have been removed.
Sample Link: <a href="http://www.coris.noaa.gov/metadata/records/html/cred_str39368591648_pearl_and_hermes_200409-200609.html">http://www.coris.noaa.gov/metadata/records/html/cred_str39368591648_pearl_and_hermes_200409-200609.html</a>	
CREW Coral Reef Early Warning System (CREWS) Enhanced Buoy, 20050411-20060904, Environmental Data Logger (EDL), French Frigate Shoals, Northwestern Hawaiian Islands	CREWS Enhanced buoys are equipped to measure water temperature and salinity at 1 m (nominal) below the water line (Seabird Model SBE37); air temperature (R.M Young Model 41342); barometric pressure (Heise DXD); wind vectors (Vaisala WAS425A); PAR, UV305 nm, UV330 nm, UV380 nm measured at 2 m (nominal) above the water line (Biosherical BIC2104R); PAR, UV305 nm, UV330 nm, UV380 nm measured at 1 m (nominal) below the water line Biosherical BIC2104U). A compass (KVH C100 SE-25) is used in the calculation of wind direction and a GPS system provides geolocation.
Sample Link: <a href="http://www.coris.noaa.gov/metadata/records/html/cred_crews_enh_cre261003_edl_french_frigate_shoals_200504-200609.html">http://www.coris.noaa.gov/metadata/records/html/cred_crews_enh_cre261003_edl_french_frigate_shoals_200504-200609.html</a>	
CRED Wave and Tide Recorder (WTR), Lisianski Island, Northwestern Hawaiian Islands, 200410-200609, Reef Assessment and Monitoring Program Cruise HI0611	Data from CRED Wave and Tide Recorders (WTR) provide a time series of temperature, wave, and tide data at coral reef ecosystem sites. Data is typically collected using a SBE Model 26 or 26plus from Seabird Electronics, Inc (www.seabird.com). Sensors include: Real-time clock, thermistor, and Digiquartz temperature-compensated pressure sensor.
Sample Link: <a href="http://www.coris.noaa.gov/metadata/records/html/cred_wtr26p368591032_lisianski_200410-200609.html">http://www.coris.noaa.gov/metadata/records/html/cred_wtr26p368591032_lisianski_200410-200609.html</a>	

<p>CRED REA Algal Assessments, Guam and Northern Marianas 2003; Northwest Hawaiian Islands 2003, 2004 and 2005; American Samoa 2004; and PRIA 2004. Assessment and Monitoring Program Cruises</p>	<p>Twelve quadrats were sampled along 2 consecutively-placed, 25m transect lines as part of Rapid Ecological Assessments conducted at 2 sites. Raw survey data included genus presence and relative abundance, and voucher specimens. Detailed taxonomic analyses of voucher specimens are presented.</p>
<p><i>Link:</i> <a href="http://www.pifsc.noaa.gov/cred/algae.php">http://www.pifsc.noaa.gov/cred/algae.php</a></p>	
<p><i>Sample Metadata Link:</i>  <a href="http://coris.noaa.gov/metadata/records/html/cred_rea_algal_assessment_agrihan_2003.html">http://coris.noaa.gov/metadata/records/html/cred_rea_algal_assessment_agrihan_2003.html</a></p>	

