

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

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ANNOUNCEMENTS

CRCP Holds Capacity Building Workshop in the USVI. On July 16-20, the [Coral Reef Conservation Program](#) (CRCP) held a two-part capacity building workshop on St. Croix, U.S. Virgin Islands in cooperation with The Ocean Conservancy, The Nature Conservancy, and the U.S. Virgin Islands (USVI) Coastal Zone Management Program. The workshop was funded by the Coral Program and a grant to The Ocean Conservancy from the NOAA-National Fish and Wildlife Foundation's Coral Reef Conservation Fund. One half of the workshop focused on marine protected area (MPA) effectiveness and was aimed at the East End Marine Park Advisory Board in St. Croix. This portion focused on selecting indicators for the [East End Marine Park](#) on St. Croix. The other half of the workshop focused on socioeconomic monitoring and was aimed at future practitioners throughout the USVI. Following the workshop, The Ocean Conservancy began coordinating socioeconomic monitoring at several sites throughout the USVI. This is the second U.S. domestic application of the [Global Socioeconomic Monitoring Initiative](#) (SocMon), which is coordinated by NOAA's CRCP and facilitates community-based socioeconomic monitoring in six regions worldwide.

Coral Issue of the NODC *Earth System Monitor*. The May issue of the National Oceanographic Data Center's (NODC) [Earth System Monitor](#) was entirely devoted to coral topics. You can read about the experiences of Coral Reef Information System (CoRIS) staff member when she acted as data manager for the [Coral Reef Ecosystem Division](#) Northwestern Hawaiian Islands Reef Assessment and Monitoring Program (CRED NWHI RAMP) cruise, as well as an article about the [CRCP](#). The issue also highlights articles about [CoRIS](#), the [Hawaii Coral Reef Initiative](#)

(HCRI), [satellite tools](#) for coral reef bleaching and monitoring, the [Integrated Coral Observing Network](#), the [Coral Reef Digital Library](#), and much more.

Newly Awarded NGO Grant Supplements CRCP Project. The NOAA [Center for Coastal Monitoring and Assessment's](#) (CCMA) Coral Ecosystem Mapping Team has been awarded a 3-year, \$375,000 grant from the Florida Fish and Wildlife Conservation Commission's Wildlife Legacy Grants Program. The funds will be used to support mapping critical benthic habitats in the Hawk Channel area of the Florida Keys. The grant will provide about 10 percent of the estimated cost to [map southern Florida benthic habitats](#).

New FGBNMS List Serve. A new list serve has been created for the [Flower Garden Banks National Marine Sanctuary](#) (FGBNMS). This general list serve was created to provide subscribers with information and the latest news about sanctuary management and research, upcoming events and opportunities for involvement. The list serve is already working as an important outreach tool for the ongoing management plan review. To learn how to subscribe to the sanctuary's list serve, send an [email](#) with the subject 'info FGBNMSupdates'.

Ocean Explorer Web Site Documents OCNMS Deep-Sea Coral Survey. A research team led by scientists from the [Olympic Coast National Marine Sanctuary](#) (OCNMS) and NOAA's [National Centers for Coastal Ocean Science](#) (NCCOS) conducted a survey in June 2006 to document deep-sea coral and sponge assemblages. In addition, the team documented signs of environmental risks related to human activities within sanctuary waters. Preliminary results of the survey, including many high-quality photo-images of corals and associated fishes and invertebrates, are now available on the Ocean Explorer [Web site](#).

Research to support effective management and protection of deep-sea corals has been recommended in recent legislation and has become a high priority for NOAA's sanctuaries.

UPDATES

Atlantic

SERO Holds First *Acropora* Recovery Team Meeting. The [Southeast Regional Office](#) (SERO) held its first *Acropora* Recovery Team Meeting July 10-11, at the [Southeast Fisheries Science Center](#) (SEFSC) in Miami, FL. NOAA was represented by staff from its [Coral Reef Conservation Program](#) (CRCP), [Coral Reef Watch](#), [Florida Keys National Marine Sanctuary](#), [Restoration Center](#), the SEFSC, and a staff member located at the Medical University of South Carolina's [Marine Biomedicine and Environmental Sciences Center](#). The Recovery Team is responsible for drafting the Recovery Plan for elkhorn and staghorn corals. The plan will serve as central guidance document identifying: site-specific recovery actions; objective, measurable criteria which, when met, would result in a determination that the species be removed from the list; and estimates of the time and costs required to achieve the plan's goal. The meeting was a successful first step, and the Team will continue to meet and draft the document over the next 1.5 years.

Biogeography Team to Study St. John Reef System. On July 7, researchers with the [National Centers for Coastal Ocean Science's](#) (NCCOS) [Biogeography Branch](#) embarked on their annual cruise to collect data on reef fish assemblages and associated habitats in St. John, U.S. Virgin Islands (USVI) in conjunction with partners from the [U.S. Geological Survey](#), the [Virgin Islands National Park](#) (VINP), and the [Virgin Islands Coral Reef National Monument](#) (VICRNM) The team was in the field from July 7-28. The first week's work focused on a project that uses implanted acoustic tags and moored receivers to track diurnal and

nocturnal movement of several key fish species throughout the seascape. The latter two weeks of the field mission were devoted to an annual monitoring program that collects data on benthic and fish communities in nearshore and offshore reef ecosystems inside and outside National Park Service boundaries to provide the scientific and management communities with vital information about the condition of the coral reef ecosystem around the island. Sampling efforts for the annual monitoring program focused on two primary objectives, 1) to inventory, characterize, and monitor reef fish and conch communities within and around the waters of the VINP, and 2) to inventory, characterize and monitor reef fish communities within and around the waters of the newly established VICRNM.

Annual 'Down Under, Out Yonder' Educator Workshop. July 7th marked the beginning of the 12th annual [Down Under, Out Yonder](#) Educator Workshop at the [Flower Garden Banks National Marine Sanctuary](#) (FGBNMS). This unique workshop not only introduced educators to information about the sanctuary, its habitats and inhabitants, but also gave them an immersion experience by taking them offshore to dive in sanctuary waters to help conduct [Reef Environmental Education Foundation](#) (REEF) fish counts. [Coral Reef Watch](#) (CRW) coordinator, Dr. C. Mark Eakin, joined the workshop and conducted lectures on coral reef bleaching and ocean acidification and led a hands-on exercise using NOAA satellite data. Fourteen participants from Texas, California, Washington, Georgia, Maryland, Wisconsin, Connecticut, Pennsylvania, Oregon and New Jersey will take their first hand experiences doing basic science in the sanctuary back to the classroom.

NCCOS Finds Derelict Traps to be Major Submerged Debris in FKNMS. NOAA's [National Centers for Coastal Ocean Science](#) (NCCOS) has found that derelict spiny lobster and stone crab traps and trap fragments comprised the

majority of marine debris observed during towed-diver visual surveys. To date, over 0.624 km² of submerged habitats have been surveyed from Key Largo to Key West, including sand, seagrass meadows, algae beds, hardbottom communities, and low-relief coral. The surveys, which began on June 11 and continued through July, are part of an ongoing study funded by NOAA's [Marine Debris Program](#) to examine the distribution of trap debris, the impact of this debris on Essential Fish Habitat, and lobster and incidental mortality resulting from derelict traps that are still 'fishing' the habitats. The work is a cooperative effort with researchers from the Florida Fish and Wildlife Conservation Commission's Fish and Wildlife Research Institute.

USVI Queen Conch Population Assessments. [Southeast Fisheries Science Center](#) (SEFSC) staff conducted field research in St. John, U.S. Virgin Islands (USVI), from June 9-20. Mark-and-recapture work continued with a total of 134 live recaptures of previously tagged conch, and tagging of 512 new individuals between two study sites. This brings the total number of tagged Queen conch to over 1,600. New piles of fished shells, which contained 255 shells, were discovered along the shores of Fish Bay. Only three percent of these animals were of legal size, the rest were juveniles with the smallest at 11 cm in shell length. Other field activities included downloading data, changing batteries, and redeploying fourteen hydrophone receivers. Downloaded data included occurrence of fish species tagged by the NOS Biogeography Team in April in Lameshur Bay, USVI. The next research trip is planned for August with continued tagging and recapture, and relocation of hydrophones into [Virgin Islands National Park/Virgin Islands Coral Reef National Monument](#) waters.

CRCP Supports NMFS Priority Stock Assessments. As part of the continuing effort to assess fished stocks and improve management of living marine resources in the southeast, the

[National Marine Fisheries Service](#) (NMFS) and the Fishery Management Councils of the southeast are involved in the 14th [SouthEast Data, Assessment, and Review](#) (SEDAR 14) process. This process involves Data Review, Assessment Modeling, and Scientific Review. Current assessments are being conducted for queen conch, mutton snapper and yellowfin grouper in the U.S. Caribbean. At the recent [Assessment Workshop](#) in St. Thomas on June 3-8, data from the [Southeast Fisheries Science Center](#) (SEFSC)-Galveston's conch tagging project and the [Center for Coastal Monitoring and Assessment's](#) (CCMA) [Biogeography Team](#) reef fish surveys were used to augment Southeast Area Monitoring and Assessment Program for the Caribbean (SEAMAP-C) surveys. This data was used to estimate queen conch population sizes for Puerto Rico and the U.S. Virgin Islands, allowing assessment of current conditions. Although populations are still low compared to surveys in the 1980s, there are some indications that populations may be increasing from previous low levels. Results were reviewed for scientific rigor at the July workshop.

Digital Data Archive on Water Temperature Trends in the FKNMS. Two staff members from the [Florida Keys National Marine Sanctuary](#) (FKNMS) and Restoration Monitoring Team submitted the entire digital data archive for the water temperature monitoring stations at Hen & Chickens Reef and Snake Creek Bridge to the U.S. Geological Survey's [Florida Integrated Science Center](#) (FISC). FISC will use the data from these stations, which spans from April 1989 to June 2007, and two others in the network, to coauthor a paper summarizing the major trends and variability from 30 years of instrumented water temperature on the Florida Reef Tract. This is perhaps the only data set of its kind in the world.

Mapping Cruise Hunts for Deep-Sea Fish Habitat. [Gray's Reef National Marine Sanctuary](#) (GRNMS) superintendent, George Sedberry,

joined the NOAA vessel *Nancy Foster* on June 25 as the lead scientist on a research cruise to take scientists into deep waters east of the sanctuary. This mission was funded by a grant from NOAA's [Office of Ocean Exploration](#) and was underway through July 4. Researchers used high-resolution sonar (multibeam, side scan and sub-bottom) and remotely operated vehicles (ROVs) equipped with video cameras to map habitat for economically important fish during the two-week project. The expedition focused on areas along the outer continental shelf — in particular, a reef that spans the coast at a depth of 200 feet, and stretches from the North Carolina border south to northern Florida. NOAA researchers, including a crew from the [NOAA Undersea Research Center at the University of Connecticut](#), mapped areas as deep as 2,000 feet, with features such as deepwater corals and reefs constructed by tube-building worms. Sub-bottom sonar was used to help determine the geological origin of the reef features. This is the second year of a two-year project. A second leg of the cruise, which was intended to utilize an ROV from NOAA-NURC to ground-truth sonar signals and to determine fish assemblages associated with particular features, was cancelled due to equipment issues. Learn more by reading the [press release](#).

GRNMS Deepwater Cruise: Leg 2. [Gray's Reef National Marine Sanctuary](#) (GRNMS) staff, along with researchers from several universities and other organizations, took part in an expedition in and around the GRNMS from June 12-22. This was the second leg of the *R/V Nancy Foster* deepwater cruise and focused on the sanctuary and ongoing research projects. The primary objectives were: 1) sub-bottom profiling in GRNMS, 2) studies of benthic invertebrate populations and population dynamics on hard bottom reefs of the South Atlantic Bight, 3) a paleontological and geologic structure survey, and 4) contributing to the [Southeastern Regional Taxonomic Center's](#) benthic invertebrate collection. To learn more, read the daily [mission logs](#).

GRNMS Deepwater Cruise: Leg 1. During June 3 – June 9, NMFS joined [Gray's Reef National Marine Sanctuary](#), the [South Atlantic Fishery Management Council](#) (SAFMC), and other partners on the first leg of a deepwater coral mapping cruise aboard the *R/V Nancy Foster*. This first leg was devoted to mapping areas within proposed Deepwater Coral Habitat Areas of Particular Concern off the East coast of Florida to support SAFMC objectives. Although the partners experienced some delays, including a departure delay of three days by Tropical Storm Barry, they gathered a substantial amount of needed data on the Miami Terrace deepwater coral Habitat Area of Particular Concern (HAPC) and associated golden crab (*Chaceon fenneri*) habitat for the SAFMC. Mapping operations utilized the *R/V Nancy Foster's* multi-beam system in addition to an autonomous underwater vehicle (AUV), the *Eagle Ray*, which is owned by the University of Mississippi and operated by UNC-Wilmington. This was the *Eagle Ray's* 5th mission and first launch and recovery from a NOAA vessel. In total, 300 km² were mapped with the ship's multi-beam and 23 hours of AUV data were collected. The AUV mapped approximately 15 km² of seafloor to a 3m or less resolution. Interesting features were identified, including 90m high coral pinnacles and 100m deep sinkholes. Daily field logs and other cruise details are posted [online](#). The vessel docked on June 11 in Savannah, Georgia to change crews and conduct Leg 2 of the cruise.

Staghorn Coral Productivity and Field Assessments Initiated. During recent [Southeast Fisheries Science Center](#) (SEFSC) field trips to Puerto Rico (PR) from May 16 – 23 and the U.S. Virgin Islands (USVI) from June 8 – 14, *Acropora cervicornis* habitats were located, and marked via global positioning system (GPS) according to the methods of Williams, Miller and Kramer (2006). Colonies were photographed and surveyed for colony characteristics, benthic cover, incidence of coral disease, and predators. Coral thickets were

identified for repeat surveys of fish assemblages and damage. Through collaboration with the [U.S. Geological Survey](#), data from past monitoring of staghorn colonies will be incorporated into the project. In both PR and USVI, specific but limited sites have been located with large fields of *A. cervicornis*, although the occurrence of *A. cervicornis* has been greatly reduced from conditions previously found across reef zones and habitats.

Pacific

Marine Debris Team Departs for Northwestern Hawaiian Islands. The [Pacific Islands Fisheries Science Center's](#) (PIFSC), [Coral Reef Ecosystem Division](#) (CRED) Marine Debris team departed on July 18 for a 28-day deployment with debris removal operations at Kure and Pearl and Hermes Atolls in the Northwestern Hawaiian Islands. This is the first of three legs in this calendar year, and the team will focus on high density areas and accumulation rate zones at these atolls. They will also be transporting personnel for the U.S. Fish and Wildlife Service, the State of Hawai'i, and the National Marine Fisheries Service (NMFS) [Protected Species Division](#), and collecting land debris from Laysan Island. In addition, two PIFSC biologists will be conducting a fish connectivity study at both atolls.

Habitat Research Informs Management.

Researchers from the [Hawai'i Institute of Marine Biology](#) joined [Papahānaumokuākea Marine National Monument](#) (Monument) staff members on a [research cruise](#) aboard NOAA Ship *Hi'ialakai* July 7-31. The research focused on further characterizing habitats of the Monument to better inform management needs. In addition to research projects such as deploying a time-lapse camera 2.5 miles below the surface, tagging sharks and other large predators with transmitters, and mapping sea floor, there was a videographer on board making an educational film about the research. Supplementing the research cruise, outreach efforts occurred back in the Main

Hawaiian Islands. There was a weekly opportunity to “talk story” with researchers and Monument staff at the Outrigger Waikiki and weekly live call-in updates were featured on KHNL, the Honolulu NBC affiliate.

Midway Visioning. The [Papahānaumokuākea Marine National Monument](#) (Monument) held a visioning session the week of June 25 with co-trustees to assess Midway island infrastructure needs for the next few years. Some of the possibilities being considered include a research or education campus on Midway. Talks have covered, among other topics, what tools and needs various options involve, and whether suggestions are in the best interest of all co-trustees. The hope is that this visioning will develop into a long term plan for infrastructure build-out at Midway.

NWHI Research Protocols Evaluated. Working with staff at the University of Miami, [Papahānaumokuākea Marine National Monument](#) (Monument) staff completed a workshop to evaluate the sampling protocols and statistical design of the Northwestern Hawaiian Islands Reef Assessment and Monitoring Program (RAMP). In transitioning from a fixed station design to a stratified random sampling design, the Monument expects to gain increased statistical power and an ability to detect smaller increments of change over time. The new methods will be tested against the old methods on the upcoming RAMP cruise in September. The workshop and the upcoming cruise are conducted collaboratively with the National Marine Fisheries Service's [Pacific Islands Fisheries Science Center](#).

Respect Our Reefs Clean-up. The [Pacific Islands Regional Office](#) (PIRO) teamed up with local, federal, and private organizations to lead a “Respect Our Reefs Clean-up” at Ga'an Point in Agat, Guam on June 30. Participants collected debris from the reef flat and beach areas, learning first hand how land-based marine debris impacts

Guam's coral reef ecosystems. The cleanup was part of an ongoing marine debris educational campaign in Guam.

International

MPA Course Held in Mexico. A [Florida Keys National Marine Sanctuary](#) (FKNMS) researcher was at the Centro Ecológico Akumal in Quintana Roo, Mexico, the week of July 1 to help teach a course on marine protected areas (MPAs). The course was organized by the Universidad Nacional Autónoma de México, Florida International University, and Nova Southeastern University. This is the third year FKNMS staff has participated, using the sanctuary as an example of MPA science and management. This year's class had nearly 30 students from Mexico, the U.S., Colombia, Argentina, Nicaragua, and Uruguay.

National/Headquarters

CRW Attends Global Change Integrated Assessment Meeting. The coordinator of NOAA [Coral Reef Watch](#) (CRW) attended a meeting entitled "Understanding and Incorporating Climate Impacts into Integrated Assessment Models" at the University of Maryland's Joint Global Change Research Institute (JGCRI) June 28 - 29. The meeting was hosted by the JGCRI and Oak Ridge National Laboratory, and was attended by researchers and program managers from various universities and federal agencies. The primary goal was to prepare a research agenda for incorporating information and processes on climate impacts, adaptation and coping mechanisms, and up-to-date science into integrated assessment modeling frameworks. CRW was invited to contribute on the issues of modeling and characterizing impacts on coral reefs and other ecosystems.

CRW Leads Effort to Develop Light and Temperature Bleaching Product. From June 22 - 25, NOAA [Coral Reef Watch](#) (CRW) staff lead a meeting on solar insolation, temperature and

coral bleaching, at the [Hawaii Institute of Marine Biology](#) (HIMB). Experts in coral bleaching, coral physiology, and light modeling from the United Kingdom, Australia, U.S., and Mexico attended the workshop. The primary goal was to develop a draft algorithm to predict coral bleaching from satellite measurements of insolation and temperature. NOAA's Satellite Applications and Research (STAR) is currently developing a product to measure those two sets of data; the meeting participants derived a new algorithm that will use this product to improve NOAA's coral bleaching alert products. The three CRW attendees also presented two seminars to students at the HIMB Pauley Summer Program in Marine Biology, and met with NOAA and Nature Conservancy collaborators in Honolulu.

Publications

Study Shows Hurricanes Sometimes Benefit Reefs. A project funded partially by the CRCP, as well as by the University of Miami's [Cooperative Institute of Marine and Atmospheric Studies](#) (CIMAS), has shown that hurricanes can act as natural cooling mechanisms for thermally stressed corals. Contrary to the historical scientific standpoint that a hurricane can only have negative effects on a reef, this study shows that a well-timed hurricane can have a mitigative effect on coral bleaching; the swath of damage is generally very small relative to the area cooled. The research team used temperature data from across Florida's reef tract to show that winds whipped up by a hurricane can cool an 800 kilometer-wide (497 mile-wide) swath of water by an average of 1.5 degrees Celsius (2.7 degrees Fahrenheit) for eleven days. Hurricane-induced cooling appears to have been important in aiding reef recovery in Florida during a mass [Caribbean bleaching event](#) in 2005. Florida waters were cooled by Hurricanes Rita and Wilma, respectively, in September and October of 2005. "Our underwater surveys showed that bleached corals in Florida immediately responded to the cooler water," noted study co-author Derek Manzello, a marine

biologist from CIMAS. Other parts of the Caribbean, most notably the U.S. Virgin Islands, remained hurricane-free that Fall and suffered more intense coral bleaching and mortality. The study's findings were published online in the [Proceedings of the National Academy of Sciences](#).

CORAL REEFS IN THE NEWS

[“Coastal Zones Set Agenda on Climate”](#)- July 19, 2007 (*San Diego Union Tribune, CA*).

“...Global warming is causing the world's oceans to expand, and they gradually could swallow coral reefs such as Key West.”

[“Windsor Resident Convicted for Unlawfully Importing Coral”](#) – July 18, 2007 (*Canada News Wire, Canada*). “Christopher Donald Dunn of Windsor, Ontario was convicted today in the Ontario Court of Justice, Provincial Division, for unlawfully importing live coral into Canada from the U.S without a permit.”

[“Royal Fury Over Destruction of Coral Reefs”](#) – July 17, 2007 (*News Straights Times, Malaysia*). “State Tourism and Environment Committee chairman Freddie Long may be in hot water over the poor state of coral reefs in the state.

[“Ecosystems of Vietnam’s Long Coastline Are in Peril”](#) – July 16, 2007 (*Reuters India, Vietnam*). “It was the destruction of coral reef and over-fishing that moved artist Nguyen Lieu to paint brightly colored canvasses warning Vietnamese that their coastal environment is in peril.”

[“International Scholarship Shores Up Coral Reefs’ Future”](#) – July 13, 2007 (*UQ News, Australia*). “A new scholarship initiative at The University of Queensland's Australasian Centre of Excellence will help protect coral reefs around South-East Asia and the Pacific for future generations.”

[“Study: Exploited Reef Fish Recover Slowly”](#) – July 12, 2007 (*Science Daily, NY*). “A U.S.-led study has found fish populations in coral reef systems might need decades to recover from over fishing.”

[“CO₂ Hurts Reef Growth”](#) – July 11, 2007 (*UQ News, Australia*). “Coral reefs are at risk of going soft, quite literally turning to mush as rising carbon dioxide levels prevent coral from forming tough skeletons, according to UQ research.”

[“Pipe Maker’s Plan to Revive Corals Just a Cover-up, Environmentalists Allege”](#) – July 10, 2007 (*The Nation, Thailand*). “Environmentalists suspect a plastic-pipe manufacturer's efforts to revive coral reefs along the Eastern Seaboard was a smokescreen to divert attention from toxic emissions at its Map Ta Phut factory.”

[“Australia. Research into Climate Change and Coral Bleaching Receives Major Funding”](#)- July 10, 2007 (*BYM News, Spain*). “... Minister for State Development John Mickel said Dr Line Bay from the ARC Centre for Excellence for Coral Reef Studies, based at James Cook University in Townsville, had received a Smart State Fellowship worth \$150,000 over three years.

[“Coral Reef: Fragile, Crucial and On the Brink”](#) – July 8, 2007 (*Telluride Daily Planet, CO*). “Coral reefs can now be read like tree rings or glacier ice, mapping environmental change over time. What emerges from these sea core samples, besides climatic shifts, is a scientifically-deduced history of human land use practices spanning the past couple of hundred years.”

[“Reefs Going Unprotected”](#) – July 7, 2007 (*Maui News, HI*). “Abused coral reefs and their inhabitants can come back. It takes time, but if protected they can return to their natural glory. Hanauma Bay on Oahu is a good example.”

“Hope for Coral Reef Regeneration After Killing Of Starfish in Thousands” – July 6, 2007 (*Gulf News, Dubai*). “Divers, fishermen, environmentalists, octopus hunters, and volunteers have jointly captured and killed a total of 5,212 starfish from January to June, from the southern Luzon Sea to save the world’s second largest bed of coral reefs, a local paper said.”

“Fallout From Bad '70s Idea: Auto Tires in Ocean Reef” – July 5, 2007 (*NPR, USA*). “It seemed like a good idea at the time. In the early 1970s, a group of fishermen organized a campaign to dump 2 million used auto tires into the Atlantic Ocean, about a mile off the coast of Fort Lauderdale, Fla., between two living coral reefs.”

“Low Tide Extreme Sun Exposure Threatens Coral Reef” – July 4, 2007 (*ABC Regional Online <http://www.abc.net.au>, Australia*). “Predicting when coral reefs are most likely to die from sun exposure could become part of local reef management strategies.”

“Save Our Reefs’ Campaigners Step Up Plans With Pledge” – July 4, 2007 (*Cayman Net News, Cayman Islands*). “The Central Caribbean Marine Institute recently launched an annual campaign aimed at mass corporate participation towards saving our reefs and the world around them.”

“Hurricanes Help Reefs Recover From Bleaching, Reveals Study” – July 4, 2007 (<http://dailyindia.com/>, FL). “...By mixing up cool deep layers of the ocean, a distant hurricane reduces sea-surface temperatures by several degrees-enough to help heat-stressed corals survive bleaching, said study co-author Derek Manzello, a marine biologist from the institute.”

“Sundried Tide: The Silent Disaster” – July 3, 2007 (*Science Alert, Australia*). “Australian researchers have studied and documented the effect of the ‘sundried tide’; a force of nature that can silently wipe-out coral reefs.”

“Water Too Hot? Hope for a Hurricane” – July 3, 2007 (*Scientific America, USA*). “While tough on reefs directly in their path, hurricanes actually help reefs further afield by cooling oceans that have grown too warm”

“Hurricanes Heal Reefs in Surprising Cases” – July 2, 2007 (*National Geographic, DC*). “...By mixing up cool deep layers of the ocean, a distant hurricane reduces sea-surface temperatures by several degrees—enough to help heat-stressed corals survive bleaching.”

“Scientists Find Deep Water Coral in Unexplored Canyons in the South West Approaches”- July 2, 2007 (*Media News Wire, NY*). “A team of UK and Irish marine scientists have been exploring the deep sea canyons 320km (200 miles) southwest of Lands End....One of the reasons for carrying out the survey was to find out if the canyons supported large cold water coral reefs, or steep rocky reefs, which could be considered for protection under the European Union's Habitat Directive.”

“Don't Forget Importance of Plant Life” – July 1, 2007 (*Pacific News Daily, Guam*). “....A healthy supply of fish provides stock to seed other areas of reef that are being exploited....work by numerous marine management agencies on Guam indicates that the marine preserves are having a positive effect on the reef fish communities.”

“Between a Reef and a Hard Place: Tourist Chiefs Battle to Save World's Coral” – July 1, 2007 (*Scotland on Sunday, United Kingdom*). “Green sea turtles, cascades of glittering reef fish, blooming coral pillars - countless travellers have come nose to nose with a thriving undersea universe while on holiday. But increasingly, divers and snorkelers are swimming over bleached hunks of coral devastated by pollution or over fishing.”

“Are Coral Reefs History?” – July 1, 2007 (*Gulf Daily News, Bahrain*). “British marine biologist Dr Charles Sheppard revealed the shocking extent of the loss of Bahrain’s coral reefs, at a seminar held here in May.”

“New Disease Threatens World's Coral Reefs” – June 30, 2007 (*Asahi Shimbun, Japan*). “The disease, called “white syndrome,” has been observed affecting coral reefs in the Great Barrier Reef of Australia as well as reefs in Okinawa Prefecture... White syndrome is potentially more troublesome because coral affected by it usually die within a year of infection.”

“U.N Says Belize on the Brink of Losing its Reef-World Heritage Site Endangered” – June 29, 2007 (*The Reporter Belize, Belize*). “A United Nations report has shown Belize is one of the Caribbean nations, most likely to suffer should there continue to be major shifts in the climate.”

“PhD Student to Study Ocean’s Garbage – Up-close and Personally” – June 28, 2007 (*Newswise, Canada*). “...Over the next three years, [Bryson Robertson] will sail around the world to study ocean garbage and the health of coral reefs, documenting among other things the huge amount of debris that washes up daily on even the most remote beaches.”

“CCMI Thanks Sponsors at Governors” – June 26, 2007 (*Cay Compass, Cayman Islands*). “Sponsors and supporters of the Central Caribbean Marine Institute were thanked last Wednesday at a reception held at the Governor’s house. The reception offered the ideal opportunity for CCMI board members to mingle with guests and update supporters on the organization’s progress over the past year.”

“Saving Coral Reefs Becomes a Tourism Priority” – June 24, 2007 (*New York Times, NY*). “Green sea turtles, cascades of glittering reef fish, blooming coral pillars — countless travelers

have come nose to nose with a thriving undersea universe while on vacation. But increasingly, divers and snorkelers are swimming over bleached hunks of coral devastated by shore runoff or over fishing.”

“Conservation Law - Climate Change Issues - Brazilian Judge Annuls Buffer Zone - Protected Buffer Zone Annulled in Brazil’s Abrolhos Marine Park” – June 24, 2007 (*The Environment Law Newswire in Lawfuel, Brazil*). “Last week, a Brazilian judge annulled the Abrolhos Marine Park Buffer Zone, just one year after its creation... As a result of losing its protected status, Abrolhos’s rich and unique ecosystems are threatened by activities such as shrimp farms and oil and gas production with environmental impacts.”

“Coral Reef Tourism Protects its Pot of Gold” – June 22, 2007 (*Taipei Times, Taiwan*). “The destruction of nature’s beautiful underwater kingdoms by coastal development, shore runoff and fishing techniques has seen the tourism industry increase conservation efforts.”

“Herpes No. 1 Virus Impacting, Killing Corals” – June 21, 2007 (*Fox News, N*). “Only, for corals, a herpes virus infection isn’t just annoying. It can be lethal, and it and other diseases are possibly a big factor in the deaths of coral reefs that humans are causing throughout the world’s oceans, new research shows.”

“Bay Coral Reefs to be Removed” – June 21, 2007 (*Gulf Daily News, Bahrain*). “Coral reefs standing in the way of development work at the site of the \$2.5 billion (BD945 million) Bahrain Bay will be removed, following a decision taken by the Manama Municipal Council yesterday.”

“Study: Herpes Virus, Carbon Killing Coral Reefs” – June 21, 2006 (*Xinhua, China*). “A common cold sore is not lethal, unless you happen to be a coral reef... Recent research into why coral

reefs are dying found a herpes virus infection and other diseases are other big factors in the deaths of coral reefs caused by humans.”

“New Security for Coral Reefs: Red and Pink Corals Get United Nations Trade Protection” – June 19, 2007 (*Horizon International*, CT).

“Trade in red and pink corals prized as jewelry for 5,000 years will be restricted to try to help the species recover after drastic over-exploitation, a United Nations wildlife conference, the Convention on International Trade in Endangered Species (CITES), agreed on June 15, 2007.”

“Focusing on Coral Reef Life” – June 18, 2007 (*Honolulu Advertiser*, HI). “The Nature Conservancy of Hawai’i has published a new colorful and informative primer on Hawaii’s coral reefs, aimed at explaining why their protection is important.”

“Florida Officials Try to Shield Coral Reefs” – June 18, 2007 (*Hinesburg Journal*, Canada).

“Just below the sea’s surface off Florida’s southeast coast lies a virtual gold mine. It’s not sunken treasure or a Spanish galleon but rather nature’s bounty: rows of coral reefs that generate billions of dollars a year in tourism spending.”

“Japan to Grow Coral Reefs in Territorial Dispute with China” – June 16, 2007 (*ABC News* <http://www.abc.net.au>, Australia).

“Officials in Japan have launched an innovative project to create new coral reefs to back Japan’s claim to territorial waters contested by China.”

“Garden Sprinklers May Save Reef from Bleaching” – June 15, 2007 (*ABC Online* on <http://www.abc.net.au>, Australia). “Queensland marine scientists and a cruise company are investigating whether garden sprinklers could be used to protect the Great Barrier Reef from coral bleaching. The University of Queensland and Quicksilver Cruises have been monitoring the

effect large floating shade cloths have on reefs of the far north Queensland coast.”

“95% of Negros Coral Reefs Ruined: Environment Agency” – June 15, 2007 (*Sun Star*, Philippines).

“Provincial Environment Management Office (Pemo) head Edwin Abanil expressed pity for the low income groups that cannot afford to buy edible fish because it’s already very expensive.”

“Caribbean Corals Face Extinction” – June 15, 2007 (*Environmental Date Inactive*, United Kingdom).

“Dr Michael L Smith, director of the Caribbean Biodiversity Initiative at Conservation International, said: ‘One of the Atlantic Ocean’s most beautiful marine habitats no longer exists in many places because of dramatic increases in coral diseases, mostly caused by climate change and warmer waters.’”

“Pollution, Ships Threaten Coral Reefs” – June 15, 2007 (*Sky Valley Journal*, WY).

“...With 84 percent of the nation’s coral reefs located along Florida’s 1,350 miles of coastline, officials are moving quickly to protect them.”

“Florida’s Officials Try to Shield Coral Reefs” – June 15, 2007 (*KSTP* <http://KSTP.com>, MN).

“Just below the sea’s surface off Florida’s southeast coast lies a virtual gold mine. It’s not sunken treasure or a Spanish galleon but rather nature’s bounty: rows of coral reefs that generate billions of dollars a year in tourism spending.”

“Officials Try to Protect Threatened US Coral Reefs From Pollution, Ships, Fishing” – June 15, 2007 (*International Herald Tribune*, France).

“Just below the sea’s surface off Florida’s southeast coast lies a virtual gold mine. It is not sunken treasure or a Spanish galleon, but rather nature’s bounty: rows of coral reefs that generate billions of dollars a year in tourism spending.”

“Necklace Noose Loosened for Coral” – June 14, 2007 (*BBC News, United Kingdom*). “The global body regulating the wildlife trade has voted to protect the red and pink corals widely used in jewelry. Corals of the genus *Corallium* are to be listed on Appendix 2 of the Convention on International Trade in Endangered Species (CITES).”

“Sharp Limits Imposed on Global Trade in Coral” – June 13, 2007 (*Raw Story, MA*). “The UN wildlife trade organization imposed strict limits Wednesday on the global trade of pink and red coral, severely depleted by commercial exploitation. With a finished necklace retailing for up to 20,000 dollars (15,000 euros), red corals are among the worlds most expensive wildlife commodities. But destructive fishing methods and over-harvesting have reduced worldwide catches by 90 percent in the past two decades, scientists say.”

“Global Warming May Spell end of Adam's Bridge” – June 12, 2007 (*The Hindu, India*). “Rising sea levels may affect the chain of barrier islands connecting Dhanushkodi and Thalaimannar, known as Adam’s Bridge, a brainstorming session of scientists and researchers, organized by the Center for Environmental Studies, University of Madras, has concluded.”

“Coral Reefs... As Valuable as They are Beautiful” – June 10, 2007 (*The Jamaica Observer, Jamaica*). “With the celebration of World Ocean's Day on Friday, Our Habitat thought it timely to look at coral reefs, and their overall value to people and ocean-bound organisms.”

“Reefs Need Help to Survive” – June 9, 2007 (*The Maui News, HI*). “...the only hope for healthy reefs lies squarely in the hands of the community. Maui needs to go back to a communal form of the konohiki system that made it possible

for the reefs to supply protein for a Hawaiian population that may have been nearly as large as it is today.”

“Rubber Reef to be Destroyed” – June 9, 2007 (*Tampa Bays 10 News, FL*). “A dead zone is what marine biologists call it. Few signs of life. Just an endless sea of rubber off the coast of Fort Lauderdale, where 2,000,000 tires were dumped in the early 1970's.”

“Solar Panels Used in Coral Reef Rehab” – June 8, 2007 (*United Press International, CA*). “U.S. firm Cypress Semiconductor Corp. has announced that it has donated six 90-watt solar panels to power MIT's First-Step Coral Reef Rehabilitation project.”

“Trouble in Hawaiian Islands Marine Monument on World Ocean Day” – June 8, 2007 (*Environment News Service, HI*). “Out in the middle of the Pacific Ocean, environmentalists say all is not well in America’s first national marine monument on World Ocean Day, observed each year on June 8. They are outraged at the recent decision of the Hawaii Board of Land and Natural Resources, BLNR, to allow bio-prospecting in the Northwestern Hawaiian Islands Marine National Monument.

“Military Operation Cleans Out Tire Reef” – June 8, 2007 (*Science Daily, FL*). “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.”

“Report Stresses Protecting Hawaii’s Coral Reefs” – June 8, 2007 (*The Honolulu Advertiser, HI*). “A new report released today showcases the biological, cultural and economic value of Hawaii’s coral reefs, but warns that in the main

Hawaiian Islands the reefs are in urgent need of protection, a Department of Land and Natural Resources news release stated.”

“Aqaba's Artificial Reef Safe Haven to Fragile Marine Species” – June 8, 2007 (*MENAFN, 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.”

“New Report Makes Strong Case For Protecting Hawaii's Coral Reefs” – June 7, 2007 (*The Nature Conservancy, HI*). “A compelling new report showcases the incredible biological, cultural and economic value of Hawaii’s coral reefs, but warns that in the main Hawaiian Islands these “rainforests of the sea” are in urgent need of protection.”

“Caribbean's Reef-Building Coral at Risk” – June 7, 2007 (*Town Hall, D.C.*). “Six species of reef-building coral could vanish from the Caribbean due to rising temperatures and toxic runoff from islands' development, according to a study released Thursday.”

“Warming Sea Threatens Caribbean Corals” – June 7, 2007 (*People and Planet, United Kingdom*). “Caribbean coral species are dying off, indicating dramatic shifts in the ecological balance under the sea, a new scientific study of Caribbean marine life shows.”

“Florida Raises Ill-fated Artificial Reefs” – June 4, 2007 (*Scotsman, United Kingdom*). “When people began dumping used tires in the ocean 40 years ago to create artificial reefs, they gave little thought to the potential environmental cost, or to how difficult it would be to pick them up.

UPCOMING EVENTS

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

August 2007

20 – 23: **18th 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. Contact Jessica.Morgan to register or for more information.

September 2007

25 – 27: **CRCP External Program Review.** Silver Spring, MD.

<http://coralreef.noaa.gov/review.html>

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

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

