NASA ARCTAS PROJECT

The Arctic. It often serves as the measuring stick for global climate change. It is where warming has been strongest in the past century, accelerating dramatically over the past few decades. The urgent need for research to better understand changes in arctic atmospheric composition and climate has brought about the Arctic Research of the Composition of the Troposphere from Aircraft and Satellites (ARCTAS) study, a multi-institution research endeavor employing aircraft based research over the Arctic region, supported scientifically by Rosenstiel School scientists Drs. Dan Riemer and Xinrong Ren.

Riemer and Ren's role in the ARCTAS study involves the deployment of two instruments, a Trace Organic Gas Analyzer (TOGA) and an Airborne Tropospheric Hydrogen Oxides Sensor (ATHOS). The TOGA employed by Riemer will measure volatile organic compounds, while the ATHOS used by Ren will measure hydroxyl and hydroperoxyl radicals in order to establish the atmospheric chemistry in the Arctic region. These measurements will contribute to four major scientific themes of the ARCTAS studies:

(Continued on page 2)

OHH TEAM CHEERS PROJECT’S CONCLUSION ON HOBIE BEACH

UM’s NSF/NIEHS Oceans and Human Health Center, the CDC, and the Florida Department of Health, Nova Southeastern University and NOAA teamed up to complete the first phase of a local study designed to find out whether current monitoring of recreational marine waters protects the health of bathers. The team recruited and screened more than 1,000 Florida residents. These participants were then invited to attend a beach research day on Hobie Beach, where participant was then randomly chosen to either: a) enter the water or b) remain on the beach for 15 minutes. Individuals selected to enter the water were asked to submerge

(Continued on page 2)
NASA ARCTAS PROJECT

(Continued from page 1)

(1) Long range transport of pollution to the Arctic, including arctic haze, tropospheric ozone, and persistent pollutants such as mercury;
(2) Boreal forest fires and their implications for atmospheric composition and climate;
(3) Aerosol radiative forcing from arctic haze, boreal fires, surface deposited black carbon, and other perturbations;
(4) Chemical processes with focus on ozone, aerosols, mercury, and halogens.

ARCTAS is part of a larger interagency and international IPY effort collectively identified as POLARCAT (Polar Study using Aircraft, Remote Sensing, Surface Measurements and Models, of Climate, Chemistry, Aerosols, and Transport.) POLARCAT will execute a series of aircraft experiments at different times of the year in order to follow pollution plumes of different origin as they are transported into the Arctic and observe the chemistry, aerosol processes, and radiation effects of these emissions. It will also observe the atmospheric composition in relatively cleaner regions outside major plumes. The experiments will also take advantage of the long residence times of pollutants in the stably stratified Arctic atmosphere to study aging processes. The Arctic will, thus, also serve as a natural laboratory for investigating processes that cannot be studied elsewhere on the planet.

SOUNDINGS IS FOR...

Soundings is the monthly school newsletter for faculty, students, alumni, and staff like Christian Ferdinand, a mail clerk carrier at the Rosenstiel School.

What attracted you to working at the Rosenstiel School?
My passion for marine life and the many opportunities the Rosenstiel School and UM have to offer!

Do you have any hobbies?
Yes, I enjoy soccer and boating.

Name something that you couldn’t live without.
I couldn’t live without my daughter. I live for her … she’s my heart!

If you become a millionaire, what would you do first?
I would set up a college trust fund for my daughter.

If we spend over 10 hours a day with you, what should we know about your personality?
You will know that I am a very outgoing, athletic, honest, calm and respectful person.

HOT OFF THE PRESSES!

The 2007 Annual Report for the Rosenstiel School is here and ready for distribution. Pick up your copy today at any of the six academic divisional offices, the Rosenstiel School Library, or the Communications Office in the Dean’s Atrium.

We are already starting to work on the next Annual Report! If you have ideas or photographs for the 2008 Annual Report please send them to barbgo@rsmas.miami.edu.

http://www.rsmas.miami.edu
ANTHROPOGENIC NITROGEN’S IMPACT ON OCEANS, CO₂

Dr. Joseph M. Prospero, professor of marine and atmospheric chemistry at the Rosenstiel School, has pioneered studies in the worldwide measurement of aerosols. His team's work focuses on aerosol chemistry as it moves from the atmosphere to the marine environment and back, particularly as it relates to the long-range transport of pollutants from the continents to the oceans and their impact on climate and on biogeochemical processes in ocean waters.

Starting in 1980, Prospero established a network of island stations in the North and South Pacific Oceans. These stations made continuous measurements of the concentration of major aerosol species: mineral dust, nitrate, sulfate, and sea salt. The network was eventually extended to the Indian Ocean and Antarctica. Through the late 90’s the UM team maintained a total of 30 stations in constant operation in all ocean regions. The data obtained are unique and have played a critical role in the development and testing of the global chemical transport models used in the climate assessment carried out by Intergovernmental Panel on Climate Change.

Prospero's data, compiled in part with the help of Ph.D. student Lauren Zamora, plays a central role in a paper that appeared in the May 16 issue of Science, “Impacts of Atmospheric Anthropogenic Nitrogen on the Open Ocean.” Spearheaded by Dr. Robert Duce from Texas A&M, the study highlights the importance of the Earth's nitrogen cycle, and its vital link to the global carbon cycle, especially the atmospheric concentration of CO₂, the greenhouse gas responsible for most of the global warming effects observed during the past century.

Various nitrogen compounds, especially nitrates and ammonium, play an important role in ocean's photosynthesis by acting as fertilizers that stimulate the growth of marine organisms. Because of human activities, the emission rates of these compounds have increased greatly over the last 100 years. The transport of these compounds to the oceans, mostly through the atmosphere, has acted to increase the drawdown of CO₂ from the atmosphere.

The paper in Science compares emissions of nitrogen compounds in the year 1860, before humans had a great impact on pollution emissions, with current emissions. Today pollutant nitrogen deposition to the oceans accounts for about ten percent of the drawdown of CO₂ from the atmosphere to the ocean. However, the deposition of these pollutants also results in the increased emissions of nitrous oxide (N₂O), which is also a potent greenhouse gas. The net effect is that the N₂O emissions offset about one-third of the effects of the increased drawdown of CO₂ due to pollution deposition.

Concerned researchers regard this paper's data as a cautionary prediction of future trends and impacts. Estimated of emissions for the year 2020 suggest that levels of anthropogenic nitrogen in the oceans will continue to increase as will their impact on ocean biochemistry.

NEW MARINE OPERATIONS MANAGER

Coming from a long line of seafarers, Captain Robert Chadwell, the Rosenstiel School's new Director of Marine Operations came aboard this summer, bringing with him a vast knowledge of marine fleets and maritime dynamics.

Most recently, Chadwell worked at the University of Alaska Fairbanks’ International Arctic Research Center (IARC) where he served on their annual oceanographic expedition into the Arctic Ocean.

Chadwell's naval history dates back to his grandfather who served as an Admiral in the U.S. Coast Guard. Growing up around boats in Southern California, Chadwell decided to join the U.S. Marine Corps after high school, earning his U.S. Merchant Marine Officer’s license, and eventually operating amphibious assault craft for the Marines.

Having earned a B.A. in History from University of Florida, Gainesville, and a Master's of Marine Affairs from the University of Rhode Island, where his thesis work alongside Dr. Dennis Nixon focused on the regulatory environment of the U.S. Oceanographic Research Fleet (UNOLS). If you have any questions regarding the R/V F.G. Walton Smith or other vessels in the school's fleet, please feel free to contact him at 305-421-4832 or rchadwell@rsmas.miami.edu.
A MYSTERY … SOLVED

This summer, long after Dr. Kate Mansfield had turned in her dissertation at the Virginia Institute of Marine Science and moved on to other research projects as a post-doctoral researcher at the Rosenstiel School, one of her sea turtle satellite tags started transmitting again. What was puzzling, however, was that the turtle wearing the tag had turned up dead in the Delaware Bay in 2006, but the tag was never recovered.

Over the last year, Mansfield has been getting periodic hits from the tag, transmitting from a location near Fortescue, N.J., a beach within the Delaware Bay. In May, the hits became stronger and more frequent.

“When I put the latitude and longitude into Google Earth, the tag appeared to move inland to Millville, N.J. So, I looked up the Chamber of Commerce there and found a link to one of its newspapers. I had a very funny conversation with the editor, then a reporter and asked if they would please run a ‘please help me to find my tag’ article,” Mansfield said.

It turned out that an ex-police chief and former Vietnam veteran (who values his privacy!) found the tag. It was in front of his beach house near Fortescue. The tag was partially submerged and only able to transmit during very low tides. He’d put it in the front seat of his truck and was driving around Millville when the tag started transmitting again. Several of the hits were from the same spot, which turned out to be in front of his lady-friend’s house, where he occasionally parked.

The tag was returned to Mansfield along with a picture of the man who found it and copies of the newspaper article. In a long string of coincidences, the gentleman’s lady-friend is a reporter for a rival newspaper in the area. She ran a follow-up article about the recovery of the tag.

AN ERUPTION OF NEW DATA FROM CERRO AZUL

Geophysical scientist Dr. Falk Amelung and his student Scott Baker, have been studying Galapagos volcanoes for years with the hope of recording a sudden, strong eruption. Not long ago, their wish came true, providing the perfect opportunity to study the geological processes on these unspoiled islands.

The southernmost volcano in the Galapagos Islands, Cerro Azul is located right on the equator in the Pacific Ocean, and is one of the many active volcanoes within the island chain. Cerro Azul is unique compared to the morphology and composition of the other Galapagos volcanoes, possibly as a result of its age, representing an early evolution or building stage that several of the other volcanoes have already completed.

Amelung and Baker have been using interferometric synthetic aperture radar (InSAR) to measure surface deformation on volcanoes. The May 2008 eruption at Cerro Azul is furnishing important SAR data that can be compared to that captured in September 1998, when the Cerro Azul last erupted. Recent data collected allows the team to study these eruptions in great detail, as well as make observations of ground deformation during the periods between.

The Galapagos volcanoes are some of the most active basaltic volcanoes in the world and provide the opportunity to observe the nature of magmatic processes through space and time. Eventually, these studies will lead to a better understanding of the stress states at basaltic volcanoes and will help with assessing potential hazards associated with all forms of life living near active volcanoes.
LITTLE SALT SPRING ROCKS A NEW DOCK

A new floating walkway and dive platform was installed at Little Salt Spring early this summer, built by Shoreline Seawall of Okeechobee, Fla. The dock replacement was made possible by a generous gift from Eugene and Lois Miller, which was then matched by other local donations.

The EZ Dock system will last decades and is stable, durable, attractive and functional. The new system replaces a less reliable, wooden dock previously installed on the property that was falling apart from exposure to the elements. Wood generally does not stand the test of time – especially in today’s hot, humid Florida climate.

The new 115-foot walkway and platform are essential to the underwater research project directed by UM/Rosenstiel Marine Archaeologist Dr. John A. Gifford, who conducts an annual class in Techniques in Underwater Archaeology at Little Salt Spring. As part of the class, students spend two-weeks diving in the spring in January, learning techniques of underwater excavation, documentation, artifact recovery and processing, and database management.

CITIZENS IN SUNSHINE STATE WEIGH IN ON CLIMATE CHANGE

A new survey of Floridians finds that most are convinced that global warming is happening now and that key leaders should do more to help Florida deal with climate change. Funded by the U.S. National Science Foundation, the survey of over 1000 Floridians was designed by Dr. Anthony Leiserowitz, director of the Yale Project on Climate Change at Yale University and Dr. Kenny Broad, associate professor at the University of Miami Rosenstiel School and the Leonard and Jayne Abess Center for Ecosystem Science and Policy, and Co-Director of the Center for Research on Environmental Decisions, based at Columbia University.

The survey's preliminary findings include:

- A majority of Floridians are convinced that global warming is happening (71%) and that global warming is caused mainly by human activities (55%), or caused equally by humans and natural changes (13%).
- 65 percent believe that global warming is already having or will have dangerous impacts on people in Florida within the next 10 years.
- 69 percent believe that parts of the state’s coasts may need to be abandoned due to rising sea levels over the next 50 years.
- Likewise, large majorities believe that global warming will cause worse storms, hurricanes and tornadoes (80%), droughts and water shortages (80%), flooding of major cities (68%), food shortages (68%), less tourism (64%), and increased rates of disease (57%).

In line with these concerns, large majorities support state policies to reduce greenhouse gas emissions, even if these policies impact their own pocketbook. For example:

- 65 percent support requiring electric utilities to produce at least 20% of their electricity from wind, solar or other renewable energy sources, even if it costs the average household an extra $100 per year.
- 65 percent support a state subsidy to encourage building owners to replace old water heaters, air conditioners, light bulbs, and insulation, even if it cost the average household $5 a month in higher taxes.
- 63 percent support the installation of solar panels on state-owned buildings, even if the electricity generated is significantly more expensive than what state government normally pays for its electricity.

A full copy of the report in PDF format is available by clicking here.
**AQUACULTURE, A TEAM EffORT**

This summer, lots of hard work has been going on across the street at the Rosenstiel School's Experimental Hatchery. Successful research on all stages of Cobia aquaculture has resulted in the development of new technology that is being transferred to other institutions and the private sector. Besides carrying out the projects from the grants Dr. Daniel Benetti and his team have been awarded, the researchers used advanced, environmentally responsible methods to create an atmosphere suitable for the fish to reproduce their entire life cycle in captivity – from eggs to market without the use of hormones, drugs or antibiotics.

Broodstock fish from their selective breeding program have been spawning naturally every week (totaling over 40 spawns this season), and the group has been raising the larvae to the juvenile stage using probiotics and other innovative technologies with great success. Moreover, the byproducts of their research (eggs, larvae, post-larvae and fingerlings) are being supplied to the industry to support open ocean aquaculture development in the United States as well as in the Caribbean and Latin American countries, where the Rosenstiel School has several ongoing collaborations with universities, governmental organizations and the private sectors. In the process, the success is bringing significant amounts of money to the Aquaculture Program. The dedication of the program's graduate students to viewing science and technology alongside sustainability, economics, business and the complex social aspects of the operations, is helping to run the hatchery and support future student research.

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**BEAL CRUISES INTO NATURE GEOSCIENCE**

Dr. Lisa Beal, assistant professor of meteorology and physical oceanography, was recently asked to submit her article “Cruising for Currents,” published in the *Journal of Geophysical Research-Oceans*, to the Research Highlights section of *Nature Geoscience*’s July issue. The article highlights some of the scientific data on the Florida Current collected during cruises on Royal Caribbean’s Explorer of the Seas.

Devoted to earth and planetary sciences, *Nature Geoscience* is a new journal which highlights selected papers in every issue. Below is the abstract for the article.

Abstract: *Cruising for currents*


“The Royal Caribbean Explorer of the Seas sailed through the Florida Straits almost weekly since its maiden voyage, carrying vacationing passengers and collecting oceanographic data on each cruise. A new study utilizing these data suggests that flow rates in the Florida Current have varied seasonally and inter-annually over the past five years.

Lisa Beal at the University of Miami, Florida and colleagues compiled current velocity data collected by the cruise ship between 2001 and 2006. They found a clear seasonal signal, with higher transport between May and July, and a transport minimum during January. They also found an overall decrease in transport between 2002 and 2005, and recovery from 2006. The longer-term changes may be linked to changes in the North Atlantic Oscillation.

The team found the strongest variability close to the shelf break and near other local topographic features, which suggests that the greatest short-term variability in transport results from changing meander modes.”

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http://www.rsmas.miami.edu
ATLAS TESTS THE NORTH AMERICAN TROPOPAUSE

Scientists deployed an advanced research aircraft to study a region of the atmosphere that influences climate change by affecting the amount of solar heat that reaches Earth's surface. Called START 08 (Stratosphere-Troposphere Analyses of Regional Transport), the project focused on the remote boundary zone that sits at the bottom of the stratosphere, called the tropopause.

The altitude of the tropopause varies from 32,000 to 56,000 feet, with the highest part lying above the tropics. It is challenging territory for scientists because it is too high to observe with most ground-based instruments or aircraft, and too low for satellites to view with great detail. Moreover, its altitude has changed in recent years as a result of global warming. As Earth’s tropical regions have grown, the highest part of the tropopause has extended farther north and south.

Scientists like Dr. Elliot Atlas, a principal investigator on the project and professor of marine and atmospheric chemistry at the Rosenstiel School, are increasingly interested in the tropopause, because of both its importance in the global climate system and because the buildup of greenhouse gases has altered this atmospheric region in ways that are not yet fully understood. These changes are setting off chain reactions that affect both weather patterns and long-term global climate.

The START 08 research team wants to determine how weather patterns stir up chemicals in the tropopause and, in turn, how the tropopause’s changing chemical composition influences global climate, including the location of the jet stream.

From April to June, they took samples of air in the tropopause using the NSF/NCAR Gulfstream-V, a cutting-edge aircraft with high-altitude capabilities, to determine the movements and concentrations of a number of gases. One of their goals was to learn more about water vapor and ozone, which act as potent greenhouse gases by trapping solar radiation in the atmosphere, thereby warming the planet.

Over the next two years, climate scientists will use observations from START 08 and other sources to adjust computer models that simulate Earth’s climate. These models will be used for the next round of IPCC reports, which are likely to be issued in about 2012 under the auspices of the United Nations and the World Meteorological Organization.

Based at the National Center for Atmospheric Research (NCAR), START 08 is a collaborative effort involving the University of Miami, Texas A&M University, the University of Colorado, Harvard University, and the National Oceanic and Atmospheric Administration. Funding for the project comes from the National Science Foundation, NCAR’s primary sponsor, and from NOAA.

THE SCIENCE OF WAVES

Wave researcher Dr. Hans Graber, professor and chairperson in the Rosenstiel School’s division of Applied Marine Physics participated in the annual WISE (Waves in Shallow Environments) conference in Helsinki for wave researchers. The WISE group consists of approximately 100 scientists and engineers from most parts of the world.

Graber is interested in the relationship between waves and hurricanes, and improving forecasting in an era of global climate variations, a goal shared by WISE. Climate change has introduced new challenges to wave research, providing what many scientists have predicted as a marked increase in available energy to hurricane development, increasing the potential for more intense storms. Ocean waves are critical in predicting global warming and climate change, and knowledge of them is vital for both engineering and environmental reasons.

In particular, WISE is aimed at developing better numerical models for the prediction of waves in shallow environments, like those in the shallow shore areas of the Gulf of Mexico, which caused considerable destruction in Hurricanes Katrina and Wilma.

The group has worked in a collaborative manner for more than a decade with the goal of developing enhanced computer models for the prediction of waves in shallow environments. Graber views his involvement with WISE as necessary to foster the free exchange and promotion of ideas among scientists in an effort to provide areas that share a significant border with the sea greater understanding of marine dynamics.
ANIMAL SPOTLIGHT: FLORIDA MANATEES

Summertime. A time when we take pleasure in living on Florida’s Atlantic coast by increasing our involvement in water activities like fishing, boating, and swimming. It is also a perfect time to brush up on your knowledge of Florida’s marine wildlife.

The manatee, a native of Florida, utilizes the very waters we love so much. Manatees are large gray aquatic mammals, with two front flippers and a paddle shaped tail. Their life span is about 40 years. Adult manatees average 10 feet in length and 1,200 pounds. Calves are three to four feet in length and 60 pounds at birth. Another interesting fact, manatees cannot endure water temperature below 68°F for an extended period. They spend the majority of time feeding on aquatic vegetation and resting in quiet waters. Manatees are able to hold their breath for as long as 20 minutes, but usually breathe every three to five minutes.

The following are some guidelines for us to follow while playing in Florida’s waterways, near areas where manatees may be found.

**Boating Guidelines:**

- Observe and follow all boating speed zone signs. (Speed zones are set up to protect you and everyone around you including our wildlife.)
- Use marked channels when boating. Manatees try to avoid heavy boat traffic areas and channel depth reduces the likelihood of pinning or crushing manatees.
- Wear polarized sunglasses while operating a boat. The polarized lenses make it easier to see an object beneath the surface.
- Keep an eye around you, both above and below the water, for our wildlife, other boaters, swimmers, or obstructions.

**Diving and Swimming Guidelines:**

- Practice passive observation. Respect the inhabitants of the underwater environment.
- Do not pursue or chase any manatees. Do not attempt to ride or grab a manatee.
- Observe resting manatees from a distance. Manatees may rest at the surface or at the bottom any time during the day.
- Never poke, prod, or stab manatees with your hands, feet, or any object.

**Fishing Guidelines:**

- Cast with care. Survey the area before you cast your line to avoid trees, utility lines, bridges, reefs, wildlife, and other anglers.
- Collect discarded line, debris, and other abandoned fishing gear when encountered.
- If your line gets snagged or should break, make every effort to safely retrieve it.

To report a marine wildlife violation, wildlife injury, or wildlife death (ex: manatees, sea turtles, dolphins), please call the 24-hour Fish and Wildlife Conservation Commission (FWCC) dispatch number: **1-888-404-3922**.

*Prepared by: Christy Hudak, FWC Marine Research Associate*
SEAFARING “MUSE” TO AID ROSENSTIEL RESEARCHERS

UM’s Rosenstiel School is the proud new owner of Calliope, a 2001, 26-foot Glacier Bay 2680 Coastal Runner. Calliope was donated by the Canellos family, residents of New Rochelle, N.Y. and the Ocean Club on Key Biscayne.

The Rosenstiel School’s Advancement Office and Marine Operations team worked with Peter Canellos on the generous donation. The vessel arrived on campus on May 30 via a new trailer, has been serviced, and is scheduled for painting in the coming weeks. Calliope will be launched soon, replacing the Tuna, a small boat in need of substantial repairs.

Christened Calliope, the vessel is named for Peter’s wife and underscores the Canellos family’s proud Greek heritage, as Calliope is the muse of epic poetry who is said to have inspired Homer. The Glacier Bay boat is the fourth boat named Calliope owned by the Canellos family over the years. They love the boat for its stability, comfort, efficiency, and ease of handling.

“We found that we had less occasion to use it in recent years and looked for a worthy organization which would make good use of it. We pass the Rosenstiel School whenever we travel to Miami, and we did research on local waters there before buying our condo. We were impressed by the School’s goals and accomplishments in protecting our precious local environment,” said Peter Canellos regarding the donation.

Time at sea is critical to our research and educational endeavors. We are very grateful to the Cannellos’ for this catamaran, which is in great shape and will hopefully inspire great new scientific accomplishments.

Prepared by: Karen Wilkening

YOU, ME AND THE SEA

Alumna Toni Parras, M.A. ’99 (MAF), a Communication Specialist with The Locally-Managed Marine Area Network, recently launched a marine awareness exhibit entitled “You, Me & the Sea” currently on display at the International Fishing Hall of Fame Museum in Dania Beach, Fla. (next to Bass Pro Outlets off Griffin Road). The exhibit opened in February but will remain on display until August 2008. Visit www.youmeandthesea.org for more information.

“You, Me & the Sea” is a unique, interactive exhibit that helps visitors understand how their bodies, breath, and weather are connected to the oceans.

Illustrator Joe Bernados (left) and YMATS founder and project manager Toni Parras (right).

Attendees at the YMATS exhibit opening reading the panel explaining how your body, breath and weather are connected to the oceans.

Children checking out the display of common food items containing seaweed components.

Photo Credit for all: Toni Parras
The “Olympics” of coral reef science were held July 7 – 11 at the Broward County Convention Center in Ft. Lauderdale, Fla. Held once every four years, the ICRS brings more than 2,500 international scientists, policy makers, managers, and conservationists together to share the latest findings on coral reef science and management. Faculty members from the Rosenstiel School, including Drs. Robert Cowen, Robert Ginsburg, Peter Swart, John McManus, Chris Langdon, Diego Lirman, Andrew Baker and Peter Glynn, participated in the planning of this global conference. Several faculty members, as well as research staff and students provided lectures and presented posters throughout the event.

The University of Miami has a rich tradition in coral science, dating back to Dr. F.G. Walton Smith, who published a first-ever guide to Atlantic corals in 1948, while dean of the Rosenstiel School. The University of Miami served as the host site for the 3rd ICRS in 1977, the last time the gathering was held in the continental United States, with Dr. Ginsburg as chairman of the event. This year, more than 50 faculty, staff and students represented the Rosenstiel School at the event – among the largest of groups from any single organization involved. Their work ranged from marine connectivity to coastal development, coral bleaching, deep-sea corals and numerous other topics of importance to the long-term health of reefs.

Established in 1999, the National Center for Coral Reef Research (NCORE) at the University of Miami is a leading provider of scientific research to better understand, conserve and manage coral reefs worldwide. Its work covers five interdisciplinary coral research themes, which were highlighted in the school's display in the exhibit hall:

- Climate change and paleoclimate reconstruction
- Connectivity and hydrodynamics
- Management science and socioeconomics
- Resilience, ecology and fisheries
- Modeling and computational science

News issued throughout the week included: International Union for Conservation of Nature and Natural Resources’ (IUCN) study suggesting that a third of reef-building corals around the world are threatened with extinction, published in Science Express. NOAA also issued a report that half of US coral reefs are in ‘poor’ or ‘fair’ condition. These two reports underscore the urgent need for continued scientific research and protection of these fragile and vital marine ecosystems.
ICRS PHOTO MONTAGE
(Continued from page 10)
AGU Honors Student Presenters
Thiago Correa, a graduate student in the division of Marine Geology and Geophysics (MGG) and Wilson Mendoza, a graduate student in the Marine and Atmospheric Chemistry (MAC) division, both earned honors in the “Best Student Presentation” category at the Spring 2008 meeting of the American Geophysical Union.

Setting a New Standard of Excellence
Out of only five awards presented this year, Rosenstiel School student Steve Saul will be the first from the School to earn the coveted NMFS Population Dynamics Sea Grant Graduate Fellowship. The award provides scientific research funding for three years.

Summer School CAN be Cool
Supported by the Rosenstiel School Dean's Office, Meteorology and Physical Oceanography (MPO) student, Atul Kapur, was chosen to participate in both this year’s NCAR Summer Colloquium on atmospheric modeling in Boulder, Colo. and a summer session on ENSO on the Big Island of Hawaii. Kapur was joined by fellow MPO student, Pedro Dinezio, who also participated in the summer school supported by his graduate advisor, Dr. Amy Clement.

Sunshine State Gubernatorial Fellow
Jessica Bolson, right, was recently awarded a fellowship by Florida Governor Charlie Crist’s office, as a part of their Gubernatorial Fellows program. Designed for students in Florida who are interested in combining their studies with work in public policy, Bolson will work with the Department of Environmental Protection (DEP) on the state’s climate and water resources policy for 6 months in Tallahassee.

Bolson earned two masters degrees, the first in Climate and Society at Columbia University, through the Department of Earth and Environmental Sciences, the other in secondary biology education at NYU, before coming to Miami to work alongside Dr. Kenny Broad on her Ph.D.

Geoscientist Digs Up Another Award
The Rosenstiel School Graduate Academic Committee has recently awarded the 2008 Koczy Fellowship to Noel Gourmelen (MGG). Currently completing research abroad in Edinburgh, Scotland, Gourmelen is planning on traveling to the Antarctic Peninsula after he finishes his degree at the Rosenstiel School. His intended research site in Antarctica is the last of the remaining large ice shelves of the Antarctic Peninsula after the collapse of three major ice shelves in the last decade.

Gourmelen will gather ice cores and operate radar and geodetic instruments to study the ice shelves structure changes in response to atmospheric and oceanic forcing and assess its relative “health.” He also plans to process some radar data in the lab to measure ice velocity and height changes. As a side project, he hopes to use the same radar to observe melting of the Vatnajokull ice cap that sits on some active Icelandic volcanoes.

Five Undergraduates Selected as NOAA/Hollings Scholars
Congratulations to the five undergraduate students who were awarded prestigious 2008 National Oceanic and Atmospheric Administration (NOAA) Ernest F. Hollings Scholar awards: Aimee Hoover, Lisa McManus, Karl Platzer, and Megan Stachura (Marine Science/Biology majors), and Matthew Niznik (Meteorology major). They join 2007 NOAA/Hollings Scholars Jason Hwang and Scott Powell (Meteorology) and 2006 NOAA/Hollings Scholars Alison Gardell (Marine Science/Biology) and Nancy Williams (Marine Science/Chemistry. The award is presented to students majoring in a discipline related to oceanic and atmospheric science, research, technology, or education, and supportive of the purposes of NOAA’s programs and mission, e.g., biological, social and physical sciences; mathematics; engineering; computer and information sciences; and teacher education.

(continued on page 13)
ROSENSTIEL STUDENT AWARDS ROUND-UP
(Continued from page 12)

The NOAA/Hollings scholarship program is designed to: (1) increase undergraduate training in oceanic and atmospheric science, research, technology, and education and foster multidisciplinary training opportunities; (2) increase public understanding and support for stewardship of the ocean and atmosphere and improve environmental literacy; (3) recruit and prepare students for public service careers with NOAA and other natural resource and science agencies at the federal, state and local levels of government; and (4) recruit and prepare students for careers as teachers and educators in oceanic and atmospheric science and to improve scientific and environmental education in the United States.

This scholarship program provides successful undergraduate applicants with awards that include academic assistance (up to a maximum of $8,000 per year) for full-time study during the 9-month academic year; a 10-week, full-time internship position ($650/week) during the summer at a NOAA facility; and, if reappointed, academic assistance (up to a maximum of $8,000) for full-time study during a second 9-month academic year. The internship between the first and second years of the award provides Scholars with “hands-on”/practical educational training experience in NOAA-related science, research, technology, policy, management, and education activities.

NEW NCAR DIRECTOR, ROSENSTIEL ALUMNUS

UM alumnus and former associate professor of meteorology at the Rosenstiel School, Dr. Eric J. Barron, has been appointed as the next director of the National Center for Atmospheric Research (NCAR). Barron joins NCAR from the University of Texas, where he served as dean of the Jackson School of Geosciences and holds the Jackson chair in earth system science. Before joining the University of Texas, he was dean of the College of Earth and Mineral Sciences and professor of geosciences at Pennsylvania State University.

Spanning three disciplines—geology, oceanography, and climate—Barron's career encompasses a breadth of experience that will be especially important as NCAR strengthens its role in the earth sciences, for example, in the ambitious goal of building an earth system model.

Barron has a distinguished record of community service. He recently stepped down as the chair of the UCAR Board of Trustees and still serves as chair of the Consortium for Ocean Leadership. He has chaired numerous NSF, NRC, and NASA committees and panels that seek to promote collective agreement and provide community-based advice, among them the NRC Climate Research Committee, the Board on Atmospheric Sciences and Climate (BASC), and NASA's Earth Observing System Science Executive Committee. He is a member of six professional societies and has been an editor of a number of climate and geology journals, including *Paleogeography*, *Paleoclimatology*, *Paleoecology*, *Global and Planetary Change*, and *Earth Interactions*, an electronic journal.

Honored with the NASA Distinguished Public Service Medal, the Wilson Teaching Award at Penn State, and other awards, Barron has authored or co-authored over 120 peer-reviewed papers. He received a B.S. in geology from Florida State University and a master’s degree and Ph.D. in oceanography from the University of Miami.

Barron first came to NCAR as a graduate student, going on to become an NCAR post-doc and early-career scientist. Since moving to the university community, he has remained a frequent collaborator with and scientific visitor to NCAR. He plans to continue to participate as an active researcher in the NCAR scientific program, in collaboration with other scientists. NCAR is confident that Barron will flourish in his new directorial capacity, leading a team that will allow NCAR to continue its strong record of science, facilities, and service and grow to meet the challenges of the future.

Photo Credit: the University Corporation for Atmospheric Research (UCAR)
Rosenstiel Alumni Social a Smash-Hit!
The RSMAS Alumni Association hosted an alumni social the evening of July 8 at the Southport Raw Bar during the 11th International Coral Reef Symposium (ICRS) in Fort Lauderdale, Fla. Drs. Peter Glynn (MBF) and Peter Swart (MGG) hosted the event with help from Alumni Board Vice President Jen Schull, AB ’97, MA ’00 (MAF). A lively crowd of more than 80 RSMAS alumni, students, faculty, staff and friends attended the event, enjoying food, drinks and a spirited raffle to benefit the RSMAS Alumni Fellowship Fund. The raffle prizes were two autographed “Dr. Peter Glynn is my homeboy” t-shirts. As luck would have it, past Alumni Fellowship recipients Tyler Smith, PHD ’06 (MBF) and Johnathan Kool (MBF) won! View photos at http://www.rsmas.miami.edu/alumni/ICRS-2008/.

POET’S PARTY IN KEY LARGO KICKS OFF SUMMER FUN

Adriana, Lillian Custals and Miguel Izaguirre

Amel Saied and Florizel McKenzie

2008 ATLANTIC HURRICANE SEASON

Do you know what steps to take if a hurricane threatens? The Rosenstiel School is taking measures to prepare the campus and our community to act quickly and safely in the event of an emergency. Please make sure you update myUM with your latest contact information, then visit myRSMAS as storms approach for disaster preparedness information, including school closings, campus contacts and other valuable information. http://www.rsmas.miami.edu/rr/Hurricane_Plan/hurricane-plan-08.html

http://www.rsmas.miami.edu
IN REMEMBRANCE

Sincere condolences go out to the family and friends of Captain Robert Morgan, Master/Captain of the Rosenstiel School’s R/V Columbus Iselin from 1977-1979 and the Cape Florida in the 1980s.

Beloved husband, father, friend, historian, and mariner Captain Robert Grant Morgan, 65, passed away on May 12th, 2008. He leaves behind his wife Cynthia, son Marcus, daughter Jessica, step-daughters Ceci and Tessa, brothers Jerry, Terry, and Tommy, and many more relatives and friends. Robert will always be remembered for his intellect, adventurous spirit, kindness, and humor.