This time of year is always particularly exciting, and I am not referring to the heightened potential for tropical storms! While research and discovery are ongoing at the Rosenstiel School throughout the year, the new school year brings with it fresh faces and renewed opportunities to reach new heights of achievement. Meeting new people who are embarking on journeys toward their own scientific goals is always stimulating.

The students and researchers who join our Rosenstiel family continue to be among the best of the best, allowing our school to grow in quality as well as quantity. This year, we have 52 new graduate and 95 new undergraduate students, several new faculty members, and a number of new staff joining us on Virginia Key. Each one of them offers new perspectives at how we look at any given scientific problem, and fresh viewpoints that continually reinvigorate our science and keep it relevant.

For those of you new to the Rosenstiel School, let me assure you that you are entering a vibrant research environment. Already this summer, UM marine archaeologists are searching for evidence of human habitation in southwestern Florida from 10,000 B.C., or 12,000 years ago, in Little Salt Spring. In the atmosphere, one scientist is exploring tropospheric chemistry composition in Boulder, Colo., while in the water another is completing a comprehensive ecosystem assessment in the Dry Tortugas, and on dry land another researcher is studying perceptions of climate change in the Sunshine State.

Rosenstiel scientists are also preparing to study North Atlantic Meridional overturning circulation employing satellite observations and numerical simulations, while others map deep-sea corals. Worldwide, there has never been a greater need to better understand our planet, and our faculty is helping to lead the way.

These are exciting times, and I am glad to be a part of them with you. I look forward to saying “Hello!” to our returning faculty, staff, and students, as much as meeting the many new people who will now have the opportunity to call our school their research home.

Good luck!

Otis Brown, Dean

Welcome to the Rosenstiel School!

The start of the 2008-2009 academic year brings with it many changes on campus as we welcome our new entering classes of both graduate and undergraduate students to the Rosenstiel School. Perhaps the biggest change is reflected in the fact that undergraduate students are explicitly mentioned in the previous sentence. After thirty years of conducting undergraduate education jointly with the College of Arts and Sciences, UM President Donna E. Shalala signed Faculty Senate legislation last spring to formally transfer the full administration of the undergraduate Marine and Atmospheric Science (MSC) Program to the Rosenstiel School, inarguably its natural home within the University of Miami. This transfer of program responsibility now gives the Rosenstiel School the right to confer undergraduate degrees and brings us more fully into the mainstream of UM’s teaching mission. Although the MSC program remains physically based on the Coral Gables campus, we are pleased to welcome an entering class of 95 talented students as the first undergraduates to call Rosenstiel their “home school.”

On the graduate level, our entering class of 52 students is the largest class since 1994, and one of the most qualified ever. The students who join our Rosenstiel community – 35 domestic and 17 international - were selected from an applicant pool that was 10-percent larger than last year, and in turn, selected us as their school of choice for pursuing graduate education and individual research interests. We look forward to working with you all to advance science and policy interests, and to fulfill your individual dreams.
ACADEMICALLY SPEAKING …
(Continued from page 1)

To deal with the larger academic program, some administrative changes have been necessary. Our Graduate Studies Office has been combined with the Undergraduate Marine and Atmospheric Science Program Office as sub-departments within a new department of Academic Affairs. Professors Chidong Zhang, top right, of MPO and Sharon Smith, bottom right, of MBF have accepted responsibilities as new Assistant Deans for Graduate and Undergraduate Studies, respectively. Dr. Daniel DiResta will continue to serve as the MSC Program Director on the Coral Gables campus, while Dr. Brian Soden (MPO) and Maria Villanueva (MAF) remain as Program Coordinators for Meteorology and Marine Affairs.

With the new academic year come new challenges and opportunities. I look forward to working with everyone to ensure that the Rosenstiel School provides an educational environment we can all be proud of.

Larry Peterson, Associate Dean for Academic Affairs

HOW MANY FUNDRAISERS DOES RSMAS HAVE?

For 65 years, the Rosenstiel School has been forging partnerships with men and women who care about our planet and its future. Were it not for the generosity of thousands of institutions and individuals, Rosenstiel would not today be one of the world’s foremost oceanographic and atmospheric institutions. And the generosity of donors is essential to maintaining the excellence of our teaching and research.

And where there are donors, there are fundraisers. How many people at the Rosenstiel School are in fundraising? All of us are. All of us here are advocates for our oceans and air. We all care about the future of our planet. Our students, faculty and staff are committed to seeking answers to the dilemmas of our changing earth.

The good news is that increasing numbers of individuals and institutions share our conviction that the work of Rosenstiel is critically important. Those who support the School with grants and donations know that their role is vital.

A donor who invests in the Rosenstiel School’s research and education can see their gift making a difference. They knows that, with first-class faculty and facilities, we can recruit the best students and train them to join the ranks of the world’s leading marine and atmospheric scientists.

The donor who gives to the School can envision a time when we can understand – and perhaps reverse – global warming. They can imagine a future when coral reefs are thriving; when the oceans aren't absorbing historic levels of CO₂ and becoming increasingly acidic; when fisheries aren't being depleted the world over. They can envision a better world where each of us are prepared to invest in each other’s vision.

The commitment of individual and institutional funders to teaching and research at the School is inspiring. These are exciting times for all of us who are share the vision of a healthy planet. In partnership with our generous supporters, it’s our task – our privilege – to be partners in giving substance to that vision.

Doug Ray, Assistant Dean for Advancement

Doug Ray, Assistant Dean for Advancement
GREEN ‘YOU’

Over the last few years, the University of Miami has made a dedicated effort to improve its position as a “green” university. Improved recycling efforts, the use of biodiesel vehicles and Segways, and an increased overall awareness of the environment have gained visibility campus-wide.

The Rosenstiel School is following many of the initiatives started by the Green U campaign, however we are continually looking for ways in which to lessen our impact on the environment. With your support, we can continue to make the changes necessary to achieve our goals:

- Protecting our environment
- Inspiring the RSMAS community, the university, as well as the general public
- Optimizing the use of the school’s resources
- Minimizing waste
- Lessening our impact on the environment
- Presenting a ‘green’ image that is in line with our scientific endeavors

So far this year we have participated in several Earth Day and other fairs to promote our environmental efforts. Our faculty, staff and students have been on beach clean-ups and planted eight new trees on campus. We have implemented a “Green Tip of the Week,” which is sent out to the campus through INFO. Parties By Pat (our food service provider) is looking into sustainable food and take-out dishes for the Commons. A showerhead exchange was a success. These and other events mark the simple changes that we can all make, that will have a huge impact in the long run.

RECYCLING GUIDELINES:

Office paper (including windowed envelopes, colored office paper, staples are ok. NO glossy paper, magazines, phone books, etc) - Collect in your office in a small box and empty into collection bin in your area.

Newspaper - Outside the library and underneath the library in the covered garage.

Cardboard - Dumpster located in NW corner of front parking lot.

Commingled plastic (#1 - #7), glass, and metal containers - Bins located under the SLAB stairs near N. Gros, in the library, and behind the Commons – please use the Commons recycling bins at lunch as well.

Batteries - Located beneath SLAB stairs near flagpole.

Used/old computer parts/electronics - Must fill out an IDR [available through your division] for Property Surplus of Main Campus to pick up. Facilities has Disposition of Excess/Surplus Equipment form.

At right, you will see a map indicating designated campus-recycling points. Locate the closest bins to your office and let us know if you need more receptacles in your area. If you have Green Tips you would like to share with the rest of campus, or suggestions on how we can be “greener,” send them to Laura Bracken, lbracken@rsmas.miami.edu (faculty/staff) or msgso@rsmas.miami.edu (students).
AGU – American Geophysical Union – organization with +50,000 members focused on promoting the scientific study of Earth and its environment in space.

AMP – Applied Marine Physics – academic division that studies fundamental and applied fluid mechanics in the ocean, especially near the air-sea interface and in coastal regions, as well as the study and application of acoustic and electromagnetic ocean remote-sensing techniques.

AOML – Atlantic Oceanographic and Meteorological Laboratory - NOAA facility across the causeway from the Rosenstiel School.

*Aplysia californica* – sea slugs or sea hares raised at RSMAS, funded through the NIH's National Center of Research Resources. Only place in the world where *Aplysia* are cultured solely for research and education.

ASIST – Air-Sea Interaction Saltwater Tank (aka. Wind-Wave Tank) located in the Glassell Building, it is a 15 m. tank for use by teachers and researchers in studying processes at or near the air-water interface in a well controlled environment employing state-of-the-art technology.

BMS – *Bulletin of Marine Science* – published at Rosenstiel School, it focuses on studies in tropical and subtropical waters. Not to be confused with *BAMS*, the *Bulletin of the American Meteorological Society*.

**Breezeway** – open air corridor that goes the length of the SLAB, often used for events and luncheons.

**The BUC** – the 8,000-seat BankUnited Center on main campus.

**CIMAS** – Cooperative Institute for Marine and Atmospheric Studies – an institute that brings together the research resources of the University of Miami with those of NOAA, to develop a center of excellence in research that is vital to understanding the Earth’s oceans and atmosphere.

**The Commons** – located within the MSC, it is the home to the School’s cafeteria and the “Wetlab.”

**CSL** – Comparative Sedimentology Lab.

**CSTARS** – Center for Southeastern Tropical Advanced Remote Sensing – located in southern Miami-Dade County, this 78 acre campus is the University of Miami’s hi-tech satellite image acquisition and analysis facility, and is operated by the Rosenstiel School.

**DCR** – Dean’s Conference Room.

**DoD** – Department of Defense.

**Doherty Marine Science Center** – see MSC.


**The Flagpole** – major meeting point on campus, located in front of the SLAB, also where the Hurry ‘Cane picks up and drops off.

**GSO** – Graduate Student Office – located in the Breezeway, this is a resource for all academic-related issues – from admission to graduation. Feel free to stop in!

**The Hatchery** – The School’s Experimental Hatchery, across the Rickenbacker Causeway by the entrance to Virginia Key Beach, home to the National Resource for *Aplysia*, Corals & Climate Change Lab, Coral Resource and UM Aquaculture, among other programs.

**Hurry ‘Cane** – UM shuttle that provides service to/from the Rosenstiel School, Monday thru Friday, during the semester. See “Resources” on website for schedule.

**LSS** – Little Salt Spring – marine archaeological site in North Port, Fla. that is being excavated this summer through a grant from National Geographic.

**MAC** – Marine and Atmospheric Chemistry – academic division that studies the chemistry of the atmosphere and marine/ground waters, evaluating processes within and between those spheres, as well as understanding the impact of man’s activities on the earth/ocean system.

**Mad Dog** – Doug Tyrell, Sr. – head of security at Rosenstiel School. He and the rest of the campus security team can be reached at the guardhouse at ext. 5-4766.

(Continued on page 5)
MAF – Marine Affairs and Policy – academic division that undertakes basic and applied research and training activities, which contribute to policy development and management of marine resources. The division offers academic tracks in aquaculture management and underwater marine cultural resources.

MBF – Marine Biology and Fisheries – academic division focused on field, laboratory and theoretical research with particular interest in areas like the biochemistry of marine toxins, coral reef studies, biological oceanography and marine biology, fisheries biology and aquaculture, and the biology and behavior of marine vertebrates.

MGG – Marine Geology and Geophysics – academic division that studies the geology, geophysics and geochemistry of the earth system, beneath, within, and above the oceans. The Division is at the forefront of understanding carbonate deposit systems, and paleoclimate researchers are using stromatolites to learn more about past climate change by studying the interaction between biological and geological processes.

MPO – Meteorology and Physical Oceanography – academic division engaged in research and instruction in the physical processes governing the motion and composition of the ocean and atmosphere. The program ranges from direct observation to theoretical and numerical modeling of the earth-atmosphere system.

MSC – Marine Science Center - building that houses The Commons and the Rosenstiel Auditorium.

MSGSO – Marine Science Graduate Student Organization – student-run organization that hosts events and raises funds to support student travel.

NCORE – National Center for Coral Reef Research.

NMFS – (pronounced like ‘nymphs’) – National Marine Fisheries Service – their local office is the yellow building directly across the street from the Rosenstiel School campus.

NIEHS – National Institute of Environmental Health Sciences – funded by the National Institutes of Health (NIH) and U.S. Department of Health, this organization's mission is to reduce the burden of human illness and disability by understanding how the environment influences the development and progression of human disease.

NOAA – National Oceanic and Atmospheric Administration - federal agency focused on the condition of the oceans and the atmosphere.

NSF – National Science Foundation.

OHH – Oceans and Human Health, an interdisciplinary center funded by the NSF and NIEHS to focus on how humans affect oceans and how oceans affect humans in tropical and subtropical environments.

ONR – Office of Naval Research.

RSMAS – Rosenstiel School of Marine and Atmospheric Science, among the largest and most well-respected schools of its type in the nation, and the only one located in a sub-tropical climate.

Rosenstiel School Auditorium – adjacent to the MSC, this 200+ seat venue is where larger gatherings are held on campus, including the popular Sea Secrets lecture series.

RSMoid – alumnus, student or other person affiliated with the Rosenstiel School.

Sea Secrets – free lecture series that features distinguished speakers on a variety of topics, and is hosted by the Rosenstiel School and the Ocean Research and Education Foundation from January – May.

Seminar Room – Large classroom located in the SLAB that is booked through the GSO.

SLAB or S/A – Science, Library and Administration Building – administrative center for Virginia Key campus, home to various academic division offices, GSO, Business Office, Sponsored Programs, Library, Advancement, Communications/Outreach and the Dean's Office.

Soundings – a historical nautical term for measuring depth, and a monthly newsletter for the Rosenstiel community – please send submissions and photos to barbgo@rsmas.miami.edu or choward@rsmas.miami.edu.

Virginia Key – location of the Rosenstiel School.

Walton Smith – founder and dean of the Rosenstiel School, in honor of whom the school's 96-foot research catamaran is named.

The Wetlab – Rosenstiel's campus pub, voted one of the 'best kept secrets in Miami' by the New Times. It's open after 5 p.m. Wednesday – Friday.
REACH OUT, ROSENSTIEL

The Rosenstiel School has an active Outreach program, and you can help it continue to grow. Throughout the year the School hosts a variety of programs designed to motivate and educate the community about marine and atmospheric science. We participate in events such as career and environmental fairs, beach clean-ups and fishing tournaments to promote the research being done at the school, as well as conservation and environmental education in general. On our campus we also host various educational lectures and meetings that are open to the public and help to enhance our knowledge of the planet. And we offer tours of our campus and labs to students and teachers, often featuring hands-on activities for them to share, or have scientists go visit them at their schools.

One of our most exciting events is the National Ocean Sciences Bowl (NOSB) Regional Competition – The Manatee Bowl. A “jeopardy-like” science competition hosted by the Rosenstiel School and Harbor Branch Oceanographic Institute, NOSB brings the ‘best and brightest’ high school science students to campus. The Manatee Bowl returns to Miami in February 2009, so we will need volunteers, judges, scorekeepers, etc. All faculty members, students, and staff are welcome to get involved!

As many of our Rosenstiel faculty, staff and students can tell you, sharing your knowledge, time and experience is very rewarding – and it is also great for networking! For more information on our programs and how to get involved, please visit the Outreach section of the Rosenstiel School website, or contact Outreach Coordinator, Laura Bracken at 305-421-4207 or lbracken@rsmas.miami.edu

MOVING TO AND FRO – TRAVELING FROM CAMPUS TO CAMPUS

Shuttle Service

The University of Miami operates the Hurry ‘Cane Shuttle during the fall and spring semesters. The Shuttle fleet, including the biodiesel fueled Optima buses, is equipped with state of the art wheelchair accessible buses. Transportation is available free of charge to all University students, faculty, staff, and visitors, and serves most major campus buildings, parking lots, and the University Metrorail station.

The RSMAS Shuttle Schedule can be found under the “Resources” tab on the homepage, or at: http://www.rsmas.miami.edu/info/shuttle-sched.html

Street Smart

Available to the UM community beginning on August 22, Zipcar is driving a revolution in smart transportation. Zipcar is an innovative car-sharing program that provides the flexibility and convenience of having a car without actually owning or leasing a vehicle. More than 70 universities across North America have partnered with Zipcar—saving students, faculty, and staff millions of dollars, reducing greenhouse emissions, and preserving green space on campus. Now that’s smart!

If you become a Zipcar member, you can reserve a car for a couple of hours or the entire day. Pick it up at the Hecht/Stanford parking lot on the Coral Gables campus and return it to the same spot when you are finished. It’s that easy.

Zipcar is a perfect alternative for students without cars, as well as faculty and staff who use public transportation to commute to campus. The annual membership fee is just $35, and rental rates are $8 to $10 per hour—even gas and insurance are included. And there’s no need to worry about parking on the Coral Gables campus—Zipcars park free!

NEW PATHWAYS

As construction continues on the new dock, the Facilities department is making efforts to ensure we can still enjoy the Rosenstiel School beach. The team is currently restoring an old gated pathway from the pen area (located between Glassell and Collier) to the beach. The area had become overgrown with mangroves, and was trimmed by a specialized contractor under permit with the Department of Environmental Resource Management.

You are invited to access the beach through this entry and avoid the pier construction/hard hat area. This new gate will be open from sun up to sun down. Please contact security (5-4766) if you have a special request for beach access via this gate.
Welcome to the Rosenstiel School Library! We are here to help you succeed in your studies and research. Our basic services and resources include:
- E-Journals
- Books, maps, charts, etc.
- Scientific literature databases for your research needs
- Reference assistance when you need direction
- Training in the use of our many resources
- Interlibrary loan – we’ll get it for you when we don’t own it
- ‘Request It’ delivery service for main campus books
- Great places to study alone or in groups
- Computers and printer/copier/scanners
- Coffee, tea, cocoa!

Fall Semester hours:
Monday – Thursday 8:30 am – 9:00 pm
Friday 8:30 am – 5:00 pm
Saturday 1:00 pm – 5:00 pm
Sunday 1:00 pm – 9:00 pm

Look for us in the Library!

AND NOW, INTRODUCING YOUR MSGSO

The Marine Science Graduate Student Organization (MSGSO) provides a link between students and Rosenstiel school administration. We are here to listen to students’ ideas, concerns, and answer any questions they have as well as provide activities and opportunities to interact with other students locally and at other university graduate programs. MSGSO’s leadership welcomes all new students as it looks forward to a fun-filled year. Below is a list of activities scheduled thus far:

**RSMAS Student Events for Fall 2008**

<table>
<thead>
<tr>
<th>Date</th>
<th>Event Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>August 29</td>
<td>5:00 p.m. – New Student BBQ (volleyball/courtyard)</td>
</tr>
<tr>
<td>September 6</td>
<td>8:00 p.m. – UM vs. UF Football Watching Party</td>
</tr>
<tr>
<td>October 10</td>
<td>4:30 p.m. – MSGSO Student Auction (Commons)</td>
</tr>
<tr>
<td>October 31</td>
<td>5:00 p.m. – Halloween Party (Commons)</td>
</tr>
<tr>
<td>November 12</td>
<td>9:00 a.m. – Free Student Breakfast (SLAB breezeway)</td>
</tr>
<tr>
<td>December 5</td>
<td>5:00 p.m. – Holiday Party (volleyball/courtyard area)</td>
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</tbody>
</table>

MSGSO leadership will update the community through e-mails and a regular column in Soundings. Please feel free to contact MSGSO leadership at msgso@rsmas.miami.edu, or through the division representatives.
The Rosenstiel School was awarded funding from the National Geographic Society to explore its marine archaeological site at Little Salt Spring. The project, led by Rosenstiel Alumnus and UM Marine Affairs and Policy Associate Professor, Dr. John Gifford (M.S., ’73 MGG), left, is searching for evidence of human habitation in Florida from 10,000 B.C. or 12,000 years ago.

According to Emily Landis, program officer, National Geographic Committee for Research and Exploration, “The research proposed by Dr. Gifford is critical to our understanding of the first Americans. In 1975, hints of a 12,000 Before Present (B.P.) occupation were found on the 27-meter ledge at Little Salt Spring. If these early occupation dates are confirmed by modern excavation and laboratory analytical techniques, it would make Little Salt Spring one of the oldest confirmed pre-Clovis sites in the Americas.”

Donated to the University of Miami in 1982, Little Salt Spring was first discovered to be an underwater archaeological site in the late 1950s. The anoxic (absence of oxygen) environment at the bottom of the spring does not allow microbes and bacteria to live, so decomposition of organic material deposited there thousands of years ago is greatly reduced. Wooden and other organic tools, as well as animals’ soft tissues and bones, are preserved nearly intact in this unique aquatic environment.

“Visiting Little Salt Spring is like walking back in time,” said UM President Donna E. Shalala. “This is an extraordinary national treasure, and it is the University of Miami’s responsibility to press on, learning more about the origin of civilization in the New World, and find a way to provide the resources to be good stewards of the artifacts we find there.”

In 2005, Little Salt Spring Principal Investigator, Dr. John Gifford, and his graduate students discovered two exceptional Archaic artifacts estimated to be approximately 7,000 years old — a greenstone pendant and another carved stone artifact that appears to be part of a spear thrower.

“Our research this summer has only begun to scratch the surface of what this site may reveal to us,” said Dr. Gifford. “Through The National Geographic Society’s generous support, our team was able to reopen and extend the 1975 excavation trench in which a now-extinct giant tortoise and an associated wooden spear were discovered, in order to take more samples for paleoenvironmental analysis and search for additional artifacts.”

Dr. Gifford’s experience at this site since 1983, his work as an underwater archaeologist since 1969 with Dr. George Bass in Turkey, and his publication record, make him well qualified to lead the project. He was joined by divers from The Florida Aquarium who are working with UM Dive Safety Officer, Rick Gomez, in the excavation of Little Salt Spring.

**INTERNATIONAL AQUATIC ADVOCATE**

Maria C. Donoso, wife of Professor Kevin Leaman (MPO Division), was recently awarded an Honorary Doctorate from the Universidad Nacional Federico Villareal in Lima, Peru. This award was made in recognition of her contributions to water-resource studies and water management in Latin America. Maria is a Technical Specialist in the Regional Office for the United Nations Educational, Scientific and Cultural Organization (UNESCO) in Montevideo, Uruguay, and also works with the International Hydrological Programme (IHP).
ALUMNI UPDATE

Continue to enjoy reading about your former classmates, and let us at the Rosenstiel School know where you are and what you've been doing, by sharing news about yourself in a future issue of Soundings. Your contact data will update our listing in our Rosenstiel School Alumni Directory. Submit your contact information and latest news by accessing:

http://www.rsmas.miami.edu/alumni/update.cgi

RECENT GRAD’S WORK ON OCEAN ACIDIFICATION PUBLISHED

A study, released in the July 28 issue of the Proceedings of the National Academy of Sciences, found that the coral reefs of the eastern tropical Pacific provide a real-world example of the challenges all coral reefs will face under high-CO$_2$ conditions resulting in ocean acidification.

This is a first attempt to characterize the impacts of ocean acidification on coral reef ecosystems by examining naturally occurring, high-CO$_2$ reef environments.

Lead author, Derek Manzello (B.S. ’02; Ph.D. ’08, MBF), a coral reef ecologist at NOAA’s AOML, and his colleagues analyzed the abundance of cements within reef framework structures from the eastern tropical Pacific, which is an entire region exposed to naturally higher levels of carbon dioxide, and compared them to reefs from the Bahamas, an ecosystem exposed to comparatively lower levels of carbon dioxide.

The impact of ocean acidification seems to be a drastic reduction in the production of the cements that allow coral reefs to grow into large, structurally-strong formations that can withstand high wave action.

“Reefs are constantly degraded by mechanical, biological, and chemical erosion,” said Manzello. “This study indicates that poorly cemented reefs that develop in an acidic ocean will be much less likely to withstand this persistent erosion. These results imply that coral reefs of the future may be eroded faster than they can grow.”

Ocean acidification occurs as much of the new carbon dioxide being placed into the atmosphere is dissolved into the ocean’s surface waters. This increase in the amount of carbon dioxide in ocean waters leads to a decrease in the amount of carbonate available to organisms like corals, which make calcium carbonate to build the stony structure they inhabit. Calcium carbonate is also the basis of the cement that binds one coral to another and to sand that fills spaces between them.

Co-authors of the paper include Joan Kleypas, National Center for Atmospheric Research; David Budd, University of Colorado; C. Mark Eakin, NOAA Coral Reef Watch; and Rosenstiel Professors Peter Glynn and Chris Langdon. The project was part of Manzello’s dissertation, “Short and long-term ramifications of climate change upon coral reef ecosystems: case studies across two oceans.”