Editorial

This is the second edition of the MGG newsletter and marks almost a year since we distributed the inaugural edition. As usual, in spite of good intentions to bring out at least two editions a year, we have fallen behind. The good news is that there is a lot of news to bring you. First, I want to thank the many of you who have passed on your helpful comments regarding our first newsletter. It seems that most people liked what they saw and we will attempt to make this newsletter a more regular affair. However, our ability to produce the newsletter depends upon contributions and feedback from our alumni as well as the current staff, students, and faculty. If you have contributions send or e-mail them to Avis Miller at the address listed on the back of this newsletter.

Editor

Don Moore

The division lost its longest serving member in November of 1997. Don Moore died unexpectedly while Cindy was away on a research cruise. Don had been associated with RSMAS in one manner or another.
since the early 1950s and was a friend to many faculty members and research students. A memorial was held for Don on December 15th, 1997 in the Commons and was attended by over 100 people, along with Don’s immediate family. The event was extremely moving and everyone who attended enjoyed hearing stories and sharing memories of Don. As a tribute to Don the division has put together a collection of pictures of Don on the division’s web site.

World Wide Web

Although we have had a web page in the division for several years, these last several months have marked a major change in the administration of the page. First, the pages which are relevant to MGG are now resident on a server in the division office. This allows us to access the pages more easily thereby making more information available. The first major change will be that we will be able to provide more information on the staff and students in the division. All students have been given the opportunity of having their own web page and I hope that the first ones will have already appeared by the time this letter reaches you. Second, we will have the ability to post this newsletter on the web. The first newsletter has already been posted. Third, the various research groups will have increased ability to refine their web sites. The MGG web site can be reached through the normal RSMAS web address http://www.rsmas.miami.edu or our own server at http://mgg.rsmas.miami.edu.

New Graduate Program Proposed in MGG

A new accelerated M.S. program has been proposed in the Division of Marine Geology and Geophysics. The idea behind the program is simple. Allow employees of local geological companies, state and local agencies, and other interested persons to take classes at irregular times with the view of obtaining a M.S. degree in approximately two years. At the present time, four tracts are planned: Environmental Geology and Hydrology, Sedimentary Systems and Petroleum Geology, Environmental Geochemistry, and Applied Geophysics. Further details regarding the program can be obtained from our web site.

New Links with &

GEOLOGICAL SCIENCES
A joint committee of MGG and Geological Science faculty has been working to revitalize and integrate the undergraduate and graduate programs in Geological Sciences. A new curriculum plan has been approved to make the Geological Sciences and Marine Geology and Geophysics programs more effective, attractive and relevant to majors and non-majors. Changes suggested by the committee include: 1) redesigning the B.Sc. core; 2) introducing a B.A. degree to target students who will become educators or journalists; 3) offering a 5 yr. B.Sc./M.S. degree; 4) offering a 2 yr. professional M.S. degree; and 5) energizing our recruiting efforts. See the Web site for details.

In order to help attract students to geology, we will offer several potential new sophomore or junior level specialty courses. These include "Reef Systems Through Time", "Caribbean and Florida Geology", "Volcanoes and Society", "Planets and Moons", and "Global Warming: an Earth View". "Reef Systems Through Time" is offered this semester by Hal Wanless with many guest speakers from RSMAS. "Volcanoes and Society" will debut next year by Jackie Dixon. The undergraduate areas of specialty feed directly into the new, accelerated Master's Program within MGG. With some planning on the part of the student beginning in his or her third year, and a project begun in the student's fourth year, it will be possible for a student to complete a Bachelor's and a Master's degree in five years.

In addition to changing the curriculum, we've stepped up our recruitment efforts. Large poster boards filled with pictures of happy, geology-students-in-the-field have been strategically placed around campus. Hal Wanless is offering GSC 110 as a summer field program this summer in Newfoundland. I can't imagine a better setting for students to be introduced to earth processes. If that doesn't get them, nothing will!

Hal Wanless continues to lead first-rate summer field programs. This year's trip was to the US southwest. Hal had extra help from Jackie Dixon and Lenore Tedesco. You can bet that the volcanic rocks got examined in more detail this year than in previous years. Even the faculty learned a lot on this trip. Jackie now knows how to tell a grainstone from a packstone and Lenore and Hal know more than they ever wanted to about mantle xenoliths.

Students at Main Campus have initiated a new Geoscience Club. The core of students that were on this last summer's Geology Field Course are an enthusiastic and close knit group. Let's give them our support!

New Seminar Series

We have also had great success with our new GSC/MGG Joint Colloquium, run by Jackie Dixon and Chris Scholz, with funding from the Provost for one year. We have tried to bring in speakers whose research is interdisciplinary and inspiring. Our speakers included:

Peter DeMenocal "African Climate Change and Human Evolution"
Mariana, Genny, Gregor, Jose and Isabel Diaz enjoying an Espresso in the Temp Lab at Flavio Anselmetti’s good bye party.

**Recent Defenses**

**Eric Hauri** (notable UM alum) "Outgassing of Sulfur During the 1883 Eruption of Krakatoa"

**David Hodell** "Climate Change in Meso-America in the late Holocene: Implications for the Collapse of the Mayan Civilization"

**Sharon Nicholson** "Climate, Lake Levels and Water Balance in Africa since the Early 19th Century"

**John Delaney** "Hydrothermal Circulation and Life in the Solar System"

**Laurie Leshin** "Life on Mars: The Good and Bad News from Stable Isotope Studies of Martian Meteorites"

**Matthew Golombek** "Mars Pathfinder Science Results"

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**Matthew Golombek** "Mars Pathfinder Science Results"

**New Students**

**Matthew Buoniconti**, Notre Dame (Advisor- Chris Scholz)

**Brian Michaels**, U. Pennsylvania (Advisor- Hal Wanless)

**Fred Baddour**, University of Miami (Advisor-Peter Swart)

**Jockel Engel**, Germany (Advisor - Eric Satzman)

**Eric Louchard**, Santa Cruz (Advisor -Pam Reid) After graduating from Santa Cruz he worked in architectural and civil engineering CADD design at Hewlett Packard and then in the molecular biology lab of Jack Fell at RSMAS. His project will involve the optical properties of sediments and is funded by ONR.
New PostDoctoral Research Associates

**Robert Harris** (University of Utah)- Dr. Robert Harris working with Dr. C. Harrison, Dr. T. Dixon, and Dr. K. Becker. He is measuring changes in temperature in bore holes to assess past changes in surface temperatures.

**Philip Kramer** (University of Miami)- Dr. Kramer is working with Dr. Ginsburg on measuring changes in reef condition on Caribbean reefs.

**Henny Gröschel-Becker** (University of Miami)- Dr. Gröschel-Becker has been working with Dr. Eberli in the rock mechanics laboratory and with Dr. Scholz on his Africa data.

**Mike McClain** (University of Washington)- Dr. McClain originally obtained his M.S. degree from RSMAS and went on to complete a Ph.D. at University of Washington. He recently obtained funding for a two year postdoctoral fellowship which will be administered through the University of Miami. During this time he will be based in Lima, Peru and associated with the stable isotope laboratory.

Congratulations

**Michael Finney** was married on February 15th, 1997. He and his wife also became proud parents of a healthy baby girl.

**Kathy White**, now at EARTHWATCH, has recently been promoted to Director of Earth and Marine Sciences. She also was recently married to a former MBF student Ian Gilbert.

**Lisa Greer** was recently awarded first place in the University of Miami graduate and research creativity forum. Lisa was also awarded the Alexander Sission award from GSA for outstanding research in the Caribbean.

**Andy Risi and Sarah Gelsanliter**- Andy and Sarah were married on November 22nd, 1997. Andy has recently defended and will be taking a two year appointment in the South Pacific. We wish them good luck.

**Karin Bernet** was recently mentioned in the JOI/USSAC Newsletter for receiving a fellowship to work on “Hierarchies of sea-level fluctuations recorded in cores, logs, and seismic data along the Great Bahama Bank Transect” - ODP Leg 166.

MGG Presents....

MGG was well represented at scientific meetings in 1997. Three faculty and four students presented abstracts at the Geological Society of America’s Annual Meeting, held in Salt Lake City, Utah.


**Greer, L.**, **Swart, P.K.**, and **Rubenstone, J.L.**, “A 210-year seasonal climate record from a Holocene coral (~5882-6092 years B.P.), Dominican Republic.”


**Incze, M.L.**, “Petrophysical properties and controls on acoustic velocity of shallow-water carbonate sediments.”

**Price, R.M.**, and **Swart, P.K.**, “Using stable oxygen isotopes to define hydrologic conditions within Everglades National Park, USA.”


At the Annual Fall Meeting of the American Geophysical Union in San Francisco, California, three faculty and two students presented papers.

“Highstand versus lowstand shedding of carbonates - new data for an old controversy from the western margin of Great Bahama Bank.”


Harrison, C.G.A., “What are the limits to ocean volume change?”

Peterson, L.C., “Late Quaternary climate change in southern Caribbean: high-resolution records from ODP Site 1002, Cariaco Basin.”

La Brecque, J. and Harrison, C.G.A. “The first international decade of potential field measurements”

Dixon, our famous volcano busters have been recently featured in the University of Miami’s Veritas magazine. (See http://www.miami.edu/veritas/November)

The Joint Oceanographic Institutions (JOI) associated with international Ocean Drilling Program (ODP), initiated a Distinguished Lecturer Series as a means to bring the results of ODP research to students and to the earth science community in general. For the 1997-98 Lecturer tour two of the six lecturer are from our Division. Larry Peterson and Gregor Eberli will each visit four universities to report on the results of their research surrounding ODP Leg 165 and 166 respectively. Larry Peterson’s talk is entitled: “Climate change in the tropical Atlantic: Clues to patterns and processes from the Cariaco Basin”. The title of Gregor Eberli’s talk is: "Sea-level changes: The pulses of sedimentation on carbonate platform margins”.

In the fall of 1997, Michael Grammer left the University of Miami to take a position as carbonate reservoir specialist with Texaco in Houston. Ten years ago, Mike Grammer joined the University to work on his Ph.D. degree. In his dissertation, under the guidance of Robert Ginsburg, he documented the evolution of the upper slope of modern Great Bahama Bank during the youngest cycle of sea level fall and
rise. After his Ph.D. he worked together with Gregor Eberli on a project in the Paradox Basin, where he applied high-resolution sequence stratigraphy to improve exploration and production strategies in mixed carbonate/siliciclastic systems. In 1995 Mike was appointed Research Assistant Professor in our Division. In experimental studies he determined the growth rates of marine carbonates, and used stable isotopes in Pleistocene marine carbonate cements to record high-frequency climatic events in the tropical oceans. His studies in ancient deposits focused on sequence stratigraphy and 3-D characterization of mixed systems in the Paradox and the Wind River Basin. Mike was a major player in the Comparative Sedimentology Laboratory; he helped design the annual research program and short courses that attracted the interest of a wide range of geologists.

Obviously, Texaco recognized Mike's qualities and offered him an excellent job. Although we did not like to see him leave, we are happy for him and wish him success in his new position.

New Equipment in MGG

GIS

Recent MGG graduate Genny Healy secured a grant from NASA to establish a laboratory concentrating on Geographical Information Systems (GIS). The
Very pleased employees of the Stable Isotope Laboratory open the first boxes of their new Mass Spectrometer. From left to right, Amel Saied, Atilla the Hun, and Geoffrey Ellis.

laboratory will be equipped with 10 state of the art computers running ARC-INFO and ARC-VIEW and will be housed in the old class-room on the second floor of the N-Grosvenor building. The lab will be offering undergraduate and graduate level classes and will be helping our researchers integrate GIS applications into their research.

Stable Isotope Laboratory

The stable isotope laboratory has expanded with the help of a grant from the National Science Foundation, matching funds from the University of Miami, and donation of equipment from VOC. The funds provided by the University of Miami and NSF have been used to purchase two new continuous flow stable isotope mass spectrometers. One of these is attached to an elemental analyzer and an autosampler. The elemental analyzer coupled to the mass spectrometer is used to measure the carbon and nitrogen isotopic composition of organic material. Combined with its carousel the instrument can analyze the C and N isotopic composition on a sample in about eight minutes. The gas sampling attachment can be used to measure the carbon or nitrogen isotopic composition of gases such as nitrogen, carbon dioxide, methane, nitrous oxides, and oxygen in either gaseous or aqueous media. For example, we have developed a simple method of measuring the carbon and oxygen isotopic composition on the dissolved inorganic carbon in water. The entire procedure including preparation time takes about five minutes a sample. As the method measures the oxygen isotopic composition which is in equilibrium with the water, the oxygen isotopic composition of the water can also be determined. The second instrument, which is known as a Geo-Hydra is interfaced to a gas chromatograph. With this setup we will be able to analyze the isotopic composition or individual organic compounds. Identification of organic compounds will be carried out using a GC-MS. The Geo-Hydra is also attached to a water equilibration device which will be able to sequentially determine the hydrogen and oxygen isotopic composition of waters through equilibration with hydrogen and carbon dioxide.
MGG Research

Watching Mountains Grow

MGG scientists are on the cover of the prestigious journal Science on January 16, 1998 with a research article authored by Edmundo Norabuena (MGG's newest grad student), Tim Dixon and their collaborators from the US and Peru. The article describes a new technique involving the French DORIS satellite tracking system combined with GPS to measure crustal deformation in the Andes. One of their findings is that the sub-Andean fold and thrust belt, currently a hot region for oil exploration, is shortening at the relatively fast rate of 15 mm/yr, about an order of magnitude faster than a previously published estimate based on seismicity. Crustal shortening is the main process that created the thickened crust and high elevation of the present Andes, and of course creates the petroleum traps in the thrust belt. Check out the article (Norabuena et al., Space geodetic observations of Nazca-South America convergence across the central Andes, Science, volume 279, p. 358-362, 1998). Reprints are available from Tim Dixon.

Dixons travel to Popocatépetl volcano, Mexico

Jackie and Tim Dixon traveled to Mexico in January to attend the IAVCEI (International Association of Volcanology and Chemistry of the Earth's Interior) meeting in Puerto Vallarta and a pre-meeting fieldtrip to Popocatépetl volcano. The fieldtrip entitled "Catastrophic prehistoric eruptions at Popocatépetl and Quaternary explosive volcanism in the Serdán-Oriental Basin, East-Central Mexico" was led by Dr. Claus Siebe, also at UNAM. Popocatépetl is a large stratovolcano that reawakened during the past years with increased seismic and fumarolic activity. It started erupting in the early morning of December 21, 1994 with nearly continuous pulsating emission of gases and ash. A lava dome was first seen to be growing on March 29, 1996. A small explosion at the dome killed five mountaineers on April 30, 1996. Popo has been declared one of the most dangerous volcanoes in the world at this time. A fantastic time was had by all learning about the catastrophic eruptions in Popo's past, the impact on prehispanic civilizations, and the present volcanic hazard. In addition to fabulous rocks, the fieldtrip included stops at archeological sites of Cholula, Huejotzingo, Cacaxtla, and Xochitécatl. The spectacular murals of Cacaxtla can be seen in the September, 1992 issue of National Geographic. Though archeologists and geologists do not completely agree, Siebe provided convincing evidence that the rise of Teotihuacán, north of Mexico City, and the fall of Cholula, in the valley of Puebla, during the Classic Period of Mesoamerican archaeology, are bracketed by Popo's last major historic Plinian eruptions ~700-900 A.D.

Enrique Cabral, an illustrious UM alumni now at UNAM (Universidad Nacional Autónoma de México) in Mexico City, was one of the IAVCEI meeting organizers. The Dixons would like to thank Enrique (and the other organizers) for helping to put on a great meeting.

Tim Dixon and Enrique Cabral are part of the current monitoring effort of Popo using continuous GPS to measure deformation of the volcano. Jackie Dixon, along with graduate student Michael Finny, are in the process of determining the pre-eruptive volatile contents and degassing history using infrared spectroscopy on melt inclusions in phenocrysts from the recent eruptions.

Meeting on Sclerosponges to be Held in Miami

Sclerosponges are calcareous sponges composed of aragonite that live between 100 and 150 meters, usually in caves and along vertical escarpments.
Participants in the sclerosponge meeting held in Miami

Sclerosponges are attractive to scientists studying the history of climate and the oceans because of their very slow and uniform growth rates. For example, a sample 10 cm in diameter can be about 400 years old! In order to explore and promote the use of sclerosponges as proxy climate indicators, a conference supported by NOAA and NSF is being held in Miami between March 22nd and 24th, 1998. The conference is being organized by Peter Swart, with help from Chris Charles at Scripps, Jim Rubenstone from LDEO, and Joachim Reitner from Germany. Scientists from all over the world will attend the meeting. More information is available on the MGG web site.

New Funds

**MGG Student Travel Fund**

We are pleased to announce the start of a new travel fund, of which 100% of the donations will go to support student travel. An initial donation was made by David Gomberg and donations have been made by a majority of MGG faculty

**Captain Roy Gaensslen Memorial Fund**

A fund has been established in the name of Captain Roy Gaensslen. Captain Roy was a friend to many MGG faculty and students and is best known for piloting his ship on many field trips to the Bahamas. It was felt appropriate that donations to this fund should be used to support field trip activities for students.

**MGG Division Field Trip to Puerto Rico**

MGG will have its first division-wide field trip in a long time, four days in beautiful Puerto Rico, March 19-23. Led by Tim Dixon, the field trip is a joint venture with the Department of Geological Sciences on the Coral Gables campus, hopefully the first of many such trips. MGG faculty Gregor Eberli and Julie Hood will also participate. MGG graduate students will get their travel costs subsidized by the new Division travel fund, supported by donations from alumni and faculty (see separate news item).

**Alumni Scholarship Fund**

RSMAS last year instigated a scholarship fund funded wholly by contributions from Alumni. The idea is that each year at least one student will receive the scholarship. Contributions can be made to The Director of Development, RSMAS.

**Where Are They Now?**

**Mike Guzikowski** has had a variety of employment opportunities since he left RSMAS including many years in the environmental industry. Currently he is working in the Catering Industry in Boston.

**Eric Barron** obtained his M.S. (1976) and Ph.D.(1980) from RSMAS. After spells at NCAR and at RSMAS as an associate professor, he assumed a position at The State University of Pennsylvania where he is director of the Earth System Science Center. Eric recently presented an AAPG distinguish lecture at RSMAS.

**Paul Crevello** with wife Azimah Johnis, live on the
Eric Barron

Paul Crevello

Maria Lara (right), Jose Masaferrro, and Dominic Esker (left)

fringes of the only remaining near pristine tropical forests and coral reef havens of Borneo, are venturing into many aspects of geology throughout Southeast Asia, as yet unbridled by local economic conditions. After an enjoyable 16 years in industry followed by 3 years teaching is now venturing into petroleum geoscience consultancy of Asia with his wife, formerly of Shell Brunei. Can be contacted via email Crevello@compuserv e.com

Maria Ester Lara graduated from the University of Miami in 1992. Her dissertation research was in the area of tectonics and sedimentation. She investigated the influence of tectonism on the carbonate deposition in the lagoon of Belize, and analyzed the failed rift of the Marajo Basin in northern Brazil. In March of 1993 she was appointed Research Assistant Professor at the University of South Carolina, Earth Sciences and Resources Institute, where she worked on a large seismic project in the Neuquen Basin in Argentina. In 95 she moved to Venezuela to work for the National Oil Company, but during a visit in 1996 in Argentina she made plans to move back to her native country. YPF, the largest oil company in Argentina, hired her and now she lives and works in Neuquen, Argentina.

David Beach, his wife Gale and their family of seven children are back in the US after several years in Cork, Ireland. David was Manager of Exploration for Marathon Oil Company’s office in Ireland where he supervised an offshore exploration program. Now back in Marathon’s Houston Headquarters, he is Coordinating Manager of Worldwide Exploration. The Beach family has settled some sixty miles from downtown Houston in Chappell, Texas on a ranchette that houses a thoroughbred mare and four Angus heifers. David reports that the sixty-mile commute is a breeze through open Texas country.

Flavio Anselmetti recently left MGG to take a position at ETH in Zurich, Switzerland. In his new position he will be responsible for seismic data acquisition in lacustrine and marine environments as part of the lake research group. While at RSMAS, Flavio was part of the infamous Tempo lab coffee drinking set and lead member of the jogging club. While not involved in these duties he supervised the petrophysics laboratory and was instrumental in the acquisition and interpretation of multi-channel seismic data that lead to the drilling of ODP Leg 166, The Bahamas Transect. We all miss him and wish him the best.
A List of the Lost

If you have the address or telephone number of anyone listed below, please let us know.

Charlie Child MS-88
Mary Dalziel MS-75
Janet Gillies MA-80
John Griffiths MS-73
Dimitri Grigoriev MS-76
Karen Harris MS-78
Arthur Horowitz MS-72
Enid Karr-Kaufman MA-92
Edward Ramirez MS-74
Matthew Tagget MS

Send us your Contributions

Contributions to our newsletter are always welcome. They should be sent to

Avis Miller
MGG/RSMAS
4600 Rickenbacker Causeway
Miami, FL 33149
amiller@rsmas.miami.edu

MGG/RSMAS
4600 Rickenbacker Causeway
Miami, FL 33149-1098