Alumni and Friends News

Fall 03

ISSUE 5

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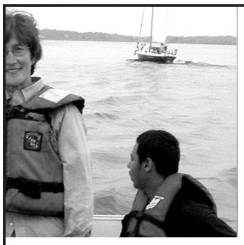

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LDEO

LAMONT-DOHERTY EARTH OBSERVATORY
THE EARTH INSTITUTE AT COLUMBIA UNIVERSITY

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Mike Purdy

G. M. Purdy, Director of the Lamont-Doherty Earth Observatory

By the time you read this we will have launched a new website for the Observatory (www.ldeo.columbia.edu). Please check it out and let us know what you think. As is all too common, I fear, our old site had become outdated and poorly maintained. We are completing a significant website initiative, not only to bring new topical content to the fore, but to implement internal checking procedures that will ensure content is kept fresh and up-to-date.

It has been a hectic summer, but most of the activity has been positive. Our recruiting campaign for new research staff is essentially complete, with more than eight superb new researchers to join our staff in the next year or so.

We were very encouraged that the National Science Foundation has signed a multi-year contract with Joint Oceanographic Institutions continuing support of our Borehole Research Group as the primary contractor for logging services for the new Integrated Ocean Drilling Program (see IODP article on page 6).

Planning continues for the development of a Rivers and Estuaries Center – inspired by New York Governor George Pataki's initiative and brought to a new level of reality by the recent designation of Lamont as the site of one of the satellite research centers for this ambitious new activity (see Hudson River article on page 4).

R/V MAURICE EWING continues to traverse the world's oceans in service to the community, working in the Gulf of Mexico earlier this year, followed by the tropical Pacific, before transiting to Norway and ending the season in the central Atlantic.

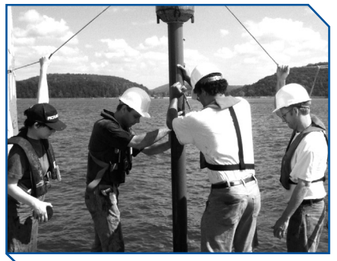
Thanks to the hard work and determination of many folks on campus we survived the Great Blackout on August 14th without serious setback. It occurred on the eve of one of our biggest NSF proposal submission dates, which added excitement beyond the normal. But thanks to Bob Bookbinder and his computer network staff protecting our internet services and internal network, and to Dick Greco (Buildings and Grounds) and Ray Long (Security) and their folks looking after the campus and its fuel-hungry diesel generators, we suffered little or no permanent damage.

As I have said many times before, it is the people that matter, and once again, when a crisis called for a little extra from everyone, Lamont's determined spirit overcame adversity.

If you are in San Francisco for the AGU meeting this fall I count on seeing you at our reception Thursday, December 11th. If you have not spoken to me before (and even if you have!) please seek me out and say hello.

I hope you find this newsletter interesting and the new design satisfying. Before you know it, it will be 2004.

We wish to give belated credit to Samuel Katz as photographer of the photo of the staff in front of Lamont Hall in our Winter 2002 edition. Thank you to Mimi Katz for bringing this to our attention.



above:Jay Ardai retrieving magnetometer

middle: Frank Nitsche, Chris Bertinato and John Lipscomb handling the chirp sub-bottom profiler

far left: Angela Slagle, Frank Nitsche, Sean Wallace and Steve Chillrud preparing the gravity core

Hudson River Institute

Govenor Pataki announces Rivers and Estuaries Center on the Hudson - Lamont is one of the sites.

New York Gov. George E. Pataki, joined by Columbia President Lee C. Bollinger and Shirley Ann Jackson, President of the Rensselaer Polytechnic Institute (RPI), have announced the commitment of $26M in private and government funding to advance river and estuary studies. The new Rivers and Estuaries Center will be headquartered in Beacon NY, with satellite sites at Lamont and RPI.

This Beacon site will consist of scientific and research facilities and will also feature educational programs, a conference center, docking facilities, classrooms and residential/ hospitality facilities. It is scheduled to open in 2006.

A mixture of state and federal appropriations, as well as funding from the New York Power Authority, the Port Authority of New York and New Jersey, the Dyson Foundation and Dutchess County is providing the Center's funding.

RPI brings to the center strengths in environmental research and advanced instrumentations and information systems. Lamont-Doherty has 30 years' experience in studying the Hudson River and its watershed, from contaminants in Glenn Falls to the salt marsh environment of Jamaica Bay.

By studying the Hudson on multiple levels and scales, from its surface to its depths, from its mud to its marshes, LDEO scientists shed light on the complex relationships humans have to the rivers they live near and use for recreation, transportation and commerce as well as drinking water supply sources.

Related research being done at Lamont-Doherty includes the first mapping of the river floor, from the Verrazano Bridge to the Federal Dam in Troy, done by Robin Bell and colleagues. In the spring of 2002, Michael Studinger and Frank Nitsche conducted the first systematic measurements of the magnetic field from just south of the Tappan Zee Bridge to 59th street in Manhattan. Arnold Gordon is leading a team of researchers in a comprehensive study of Jamaica Bay, a complex salt marsh environment seriously threatened by its urban surroundings.

Other studies have monitored how contaminants move through the Hudson, shown that the modulation of the mixing in the stratified lower Hudson is significantly greater than previously believed, and have analyzed components of Hudson geochemistry since the early 1970's. These are just some of the many research projects currently underway, and as the Center's resources become available, they are sure to increase.

Lamont-Doherty is proud to be part of the new Rivers and Estuaries Center on the Hudson, and looks forward to helping to make study of the Hudson a model for research into rivers and estuaries around the world.

Earth Institute Director Jeffrey Sachs and Lamont Director Michael Purdy with students

Open House and Alumni Reunion 2003

Saturday, October 4, 2003

Lamont-Doherty Earth Observatory's annual Open House took place on Saturday October 4, 2003 and, as always, was both well attended and well appreciated by the visitors. The theme this year was *The Science of Earth.*

The dozens of exhibits and lectures include topics such as Global Climate Change and, closer to home, Rockland County Droughts. "Mr. Wizard" (Dave Walker) and "Bathtub Science" (starring Marc Spiegelman) were favorite returning activities for children, as was the new "Plant a Seed, Watch it Grow" activity in the research greenhouse.

For the first time this year, visitors included high school students from around the country who have expressed an interest in studying science at Columbia College.

Throughout the day Lamont alumni renewed acquaintances and shared stories in a reception area in Lamont Hall. At the end of the day, they joined staff and volunteers for the traditional Open House volunteers party.

Samir Patel, an Earth and Environmental Journalism student, with young visitors at the "Where are We?" exhibit

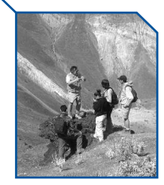
Pedro Sanchez, Director of Tropical Agriculture at the Earth Institute spoke at Open House. Sanchez has been named a 2003 MacArthur Fellow.

Jim Dorman, Arnold Finck and John Kuo at the Alumni Association General Meeting

Death Valley Field Trip

Every spring break, Earth and Environmental Sciences Professor Nick Christie-Blick takes 20 students on a fieldtrip to a place with a name that seems determined to keep visitors away: Death Valley. From all reports, the students seem to enjoy it very much and learn a lot; in fact, there is more demand for spaces than can be accommodated. The trip is designed for first and second year undergraduates with little or no background in the earth sciences and consists of long days in the field, sleeping in bunkrooms (or under the stars), making direct observations, and developing and defending plausible hypotheses about the geologic history of the areas visited.

Read an online article about the fieldtrip at www.earthinstitute.columbia.edu/news/2003/ story04-15-03



Prof. Christie-Blick and students at Ubehebe Crater during 2002 Death Valley fieldtrip.

Summer Interns

This year, twenty-nine undergraduates from around the country participated in the Lamont-Doherty summer internship program. The program, which has been overseen by Dallas Abbott for the last 13 years, allows students with an interest in a career in the earth sciences to participate in ongoing research projects.

Besides working in laboratories alongside Lamont-Doherty scientists, the interns attended special lectures twice a week, participated in field trips, and made presentations on their research projects at the end of the program.

Intern Michael Borenstein had what he described as an "absolutely fantastic" internship experience. He went to sea in the North Atlantic, participating in a Bill Smethie CFC (Coloroflourocarbon) cruise aboard R/V Oceanus.

2003 Summer Interns
Photo courtesy of Melissa Ou, Lamont-Doherty summer intern 2003

Brenda Box, of WTOP-AM radio, Washington DC, attended the recent Society of Environmental Journalists Conference in New Orleans as a Senior Fellow. Leading a conference mini tour on the Bayou Savage National Wildlife Refuge, a 23,000 acre National Wildlife Refuge, Brenda holds a baby alligator, one of the smaller refuge inhabitants. Fellows were sponsored through an NSF grant designed to build diversity in, and through, environmental journalism.

Enhancing Diversity in the Geosciences Through the Media

by Laura Wright

Figuring out a way to drum up interest in the geosciences among minority students has long been a challenge for the field, so Kim Kastens, a Doherty Senior Research Scientist, has decided to take a new approach. Rather than reaching out to students directly, Kastens wants to infuse their community with news about their environment. Her hope is for children to grow up familiar with the environmental problems that affect their neighborhoods and lives so that when the time comes to choose a career, they might look to geoscience as a way to solve those problems.

Three years ago Kastens pitched her idea to reach out to minority communities through the media, and NSF's Opportunity for the Enhancement of Diversity in the Geosciences program gave her the money to run with it. Today she directs a project called Building Diversity In, and Through, Environmental Journalism. This project encourages minority journalists to explore environmental reporting by providing fellowships for them to attend meetings of the Society for Environmental Journalists, and by co-sponsoring sessions on environmental topics at meetings of minority journalists' professional associations.

In September, 24 minority fellows attended this year's SEJ meeting in New Orleans. Last year, 16 traveled to Baltimore to attend. And it seems they're doing something right—half of last year's 16 fellows returned as senior fellows this year. Not only did those eight return, but they are growing into leaderships roles within the Society.

"Senior Fellows are able to serve as mentors for new fellows, so it's very exciting to have so many returning," says Margie Turrin, who assists Kastens in coordinating the program. One returning fellow was Brenda Box, a radio journalist from Washington, D.C. Box's enthusiasm for environmental reporting goes beyond what Kastens and Turrin could have hoped for so soon. Box not only led a field trip to a wildlife refuge at this year's conference, she was elected to the Society's Board of Directors.

Kastens directs Columbia University's dual-degree program in Earth and Environmental Science Journalism.

Laura Wright is a 2003 graduate of the Earth and Environmental Science Journalism Program.

IODP Annoucement

LDEO Chosen as Recipient of Major Grant for New Integrated Ocean Drilling Program

The ODP Drillship, the JOIDES Resolution

On September 30th, Joint Oceanographic Institutions (JOI), a consortium of 18 universities and research institutions, signed an agreement with the U.S. National Science Foundation (NSF) to operate a scientific drillship for the new Integrated Ocean Drilling Program (IODP), the successor to the Ocean Drilling Program (ODP).

The NSF will award $626M over 10 years to JOI for the alliance of JOI, Texas A&M University and Lamont-Doherty to provide long-term management and scientific support of a non-riser drilling vessel. Lamont-Doherty's share of the contract is estimated to be $60-70M, the largest single such award in its history.

Since 1985, JOI has managed the Ocean Drilling Program, working with Texas A&M, the Borehole Research Group and others at Lamont to provide leadership and expertise leading to many scientific advances, including discoveries of evidence of rapid climate change, sub-seafloor microbial life and natural gas hydrates. The IODP will have three areas of initial emphasis: the deep biosphere and the sub-seafloor ocean, processes and effects of environmental change, and solid earth cycles and geodynamics.

Bruce Malfait, Head of the Marine Geosciences Section at NSF, said, "Signing the contract is a major step in implementing the IODP and follows on recommendations of the international scientific community developed over the last seven years of planning for this exciting new program. The alliance institutions have provided exemplary service during the Ocean Drilling Program and we have every confidence that they will be able to meet the increased challenges of the IODP."

Columbia250 Symposium

Purdy and Mutter to lead Lamont-Doherty's Participation in Columbia 250

COLUMBIA250

Beginning on October 16, 2003, Columbia will spend a year celebrating its founding as King's College in 1754. As the fifth oldest university in the nation, and the oldest in New York State, Columbia certainly has much to celebrate. There will be homecoming celebrations, symposia and forums, a film, book signings, special events of all kinds, and more. For further details please visit the Columbia250 website, http://www.columbia.edu/cu/250.

Earth's Future: Taming the Climate
April 22, 2004
9:00 a.m. to April 23, 2004 5:00 p.m.
Roone Arledge Auditorium
Alfred Lerner Hall
Morningside Campus

What limits our ability to control Earth's climate? The topic has an impact on all people and will be illuminated by perspectives from many different disciplines. This symposium is led by G. Michael Purdy, Director of the Lamont-Doherty Earth Observatory, John Mutter, Deputy Director of the Earth Institute at Columbia University, and the planning group of Klaus Lackner, Ewing Worzel Professor of Geophysics, Columbia University, Geoffrey Heal, Paul Garret Professor of Public Policy and Corporate Responsibility, Columbia Business School, and Roberto Lenton, Executive Director, Secretariat for International Affairs and Development, International Research Institute for Climate Prediction, Columbia University.

The discussion will involve leading scholars from a range of disciplines, including earth, ocean, and atmospheric sciences; political and social sciences; and ethics and international law. Participants will include academics from universities, foundation representatives, and government leaders from the United States and other countries. The symposium comprises keynote speakers and interdisciplinary panels.

If you'd like to receive an invitation please contact Sara Kopcsak at 845-365-8634 or kopcsak@ldeo.columbia.edu.

New "Frontiers of Science" Course and Schermerhorn Hall Renovation

By William Menke, Deputy Director for Education and Chair of the Department of Earth and Environmental Sciences

New Frontiers of Science Course

The new freshman course, Frontiers of Science, has had an auspicious start this semester, with its first lecture being held in the IMAX theatre on Broadway and 68th Street in Manhattan.

With an enrollment of nearly 400 students (fully one third of this year's entering Columbia College class), this new interdisciplinary science course represents a major effort by Columbia's science departments to bring the excitement and intellectual depth of scientific research to all undergraduates.

As part of this course Professor Wally Broecker, one of Frontier's four lecturers, will present "Is the Earth Really Warming?" This three-lecture series addresses the scientific evidence for global warming and confronts the problem of relating scientific predictions to public policy.

Schermerhorn Renovation

Many alumni will fondly recall the Department's facilities in Schermerhorn Hall (Morningside Campus) as a cross between a dimly-lit nineteenth century museum and a noisy, run-down New York City tenement. No more! A major renovation is well underway.

This most-needed facelift will modernize our department office and faculty and student lounges, and will provide a brighter, quieter and more attractive setting for our educational programs. Don't fear however, the most charming features of past times, such as the church pew and the dinosaur footprints, are still there.

Challenging Climate Folklore

by Richard Seager

The idea that the Gulf Stream is responsible for Europe's mild winters can be found in climatology textbooks, travel guides, the Oxford Encyclopedia of Wine, scholarly articles and the popular press. It's one reason why so much climate research has been focused on the impact of changes in the circulation of the North Atlantic Ocean. Belief in the benign role of the Gulf Stream is so widespread that it has become folklore-despite the absence of any evidence, using modern data and scientific methods, to support its veracity.

In the middle of winter western Europe (The British Isles, Scandinavia, France) is on average as much as 15-20°C warmer than places at the same latitude on the eastern coast of North America (Newfoundland, Labrador). Since the Gulf Stream carries warm waters from the subtropical Atlantic northward, cooling as it goes, and winds in mid-latitudes blow from west to east, it was deduced that the heat released from the Gulf Stream and blowing eastward must be the reason why Europe is so much milder in winter than eastern North America.

There is, however, a simpler explanation.

During summer, oceans warm less—and in winter, cool less—than land. This alone would give a significant difference in the seasonal temperature range of land and ocean. Further, wind stirring mixes heat down into the ocean so that, during summer, the Sun's energy heats a layer—the "mixed layer"—that is tens of meters deep, whereas, over land, only the top meter or so is heated. In winter, the cooled surface water sinks, to be replaced by warmer waters from below.

Areas such as western Europe, which receive air from off the ocean, have a "maritime climate" characterized by cool summers and mild winters, while areas west of oceans, such as eastern North America, have a "continental climate" characterized by hot summers and cold winters. This would be the most basic explanation of the difference in winter climates across the North Atlantic.

This difference would exist even if the winds blew directly from west to east. But they don't; in the Northern hemisphere, where winds blow from the north it is relatively cold and where winds blow from the south it is relatively warm. These meanders in the atmosphere flow are partly due to variations in the surface temperature, with low pressure over warm winter oceans and high pressure over cold winter land masses.

However they are also greatly influenced by the distribution of mountains. A column of atmosphere going over a mountain must conserve angular momentum as it gets vertically squeezed

and then stretched, which sets up a meandering wave downstream. One such meander occurs east of the Rocky Mountains—a vast kink in the circulation of the atmosphere that brings cold air from Canada into eastern North America and pushes warm air from the southwest into western Europe.

Thus we have three contenders for why Europe's winters are mild relative to eastern North America's: 1) the seasonal storage of heat by the ocean and its release into the mean winds, 2) the transport of heat northward by the Gulf Stream and its release into the mean winds, and 3) the transport of heat within the atmosphere meanders (called "stationary waves" because they stay fixed relative to the Earth's surface), bringing patterns of cooling in some places and warming in others. The research conducted by myself and many colleagues, and published in the October 2002 Part B issue of Quarterly Journal of the Royal Meteorological Society, quantified the relative importance of these three influences.

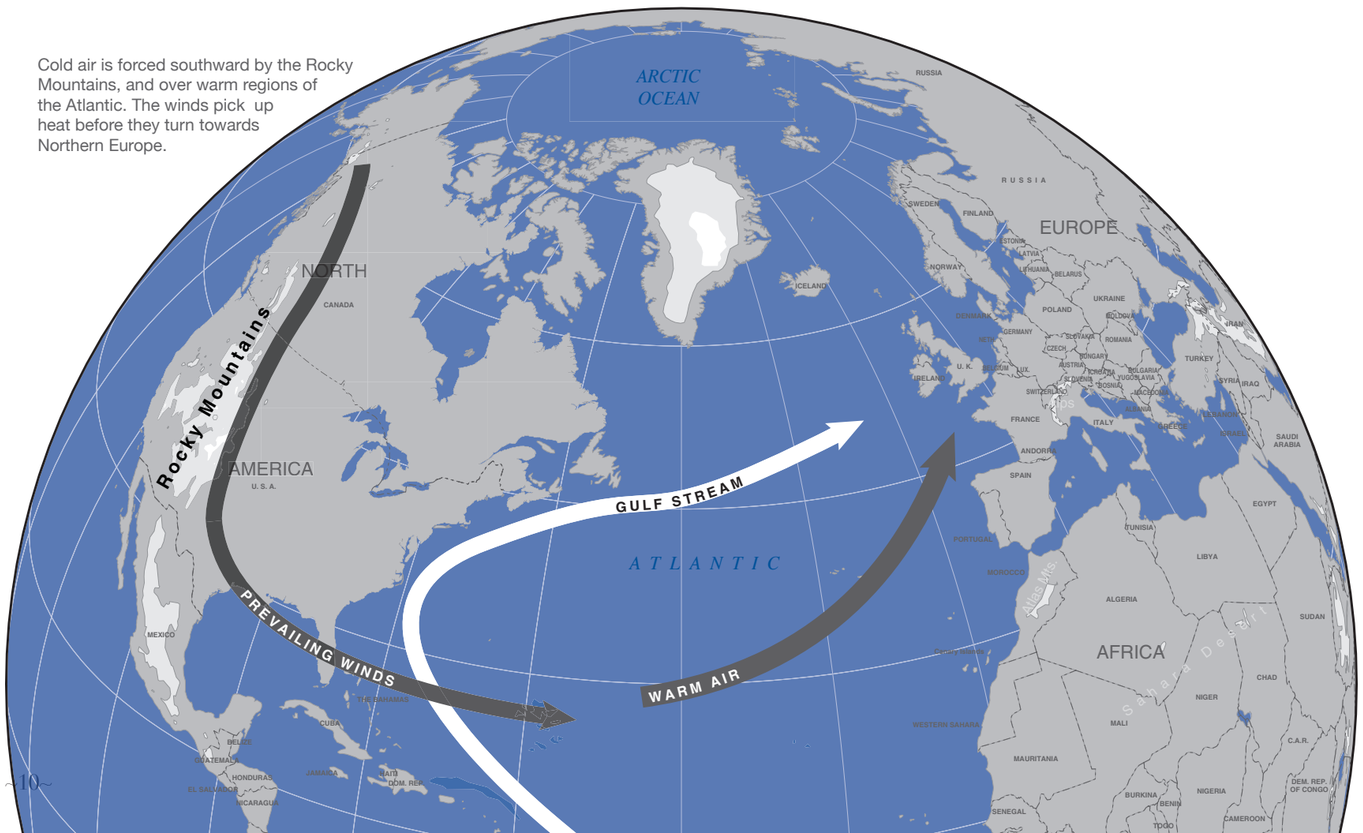
A useful first step is to consider the relative magnitudes of the atmosphere and ocean heat transports. At lower latitudes the solar radiation absorbed by the atmosphere-ocean-land system exceeds the longwave radiation emitted to space. The opposite holds true at higher latitudes. To balance this, the atmosphere and ocean move heat from the tropics to high latitudes. The most recent data shows that in mid-latitudes the atmosphere overwhelmingly dominates the ocean in transporting heat. Were it not for this atmospheric heat transport from the tropics into the extratropics the whole area north of 35 °N would be some 27° C cooler in winter.

The atmospheric heat transport is accomplished by waves. Some of these are stationary with respect to the earth's surface, such as the one forced by the Rocky Mountains, and move cold air equatorward at some longitudes and warm air poleward at others – a net poleward heat transport. Others are transient in time and space - the endless progression of cyclones and anticyclones that bring our weather.

Using data produced during numerical weather forecasting it is clear that the stationary waves warm the areas east of the mid-latitude oceans and cool areas to the west of the oceans. This effect is caused by the north-south flow within the stationary waves and augments the effect of eastward advection of the land-sea temperature disparity. In contrast, the net effect of the transient waves – day-to-day weather and highly variable winds—warms where it is cold (e.g., eastern North America) and cools where it is warm (e.g., western Europe).

The time-averaged flow, both from west to east and in the north-south direction, has the dominant effect, so what sustains the release of heat from the ocean that the winds blow into Europe?

Cold air is forced southward by the Rocky Mountains, and over warm regions of the Atlantic. The winds pick up heat before they turn towards Northern Europe.



Richard Seager at LDEO.

In conclusion, we can state that about half of the total 15°C winter temperature contrast between eastern North America and western Europe is caused by the Rocky Mountains...while almost none is explained by the Gulf Stream heat transport!

To find out, we used ship observations to examine the heat release from ocean to atmosphere by evaporation, sensible heat exchange and net longwave radiative loss.

Upon analysis, this data revealed that ocean currents account for half of the winter heat release in only two small areas—the Gulf Stream region immediately east of the United States where warm tropical waters flow underneath cold, dry air coming off North America, and in the sea immediately west of Norway. Over the vast remainder of the North Atlantic the winter heat release is overwhelmingly sustained by the gradual release of the summer's stored heat. This process would of course occur even if the ocean did not move. We estimated that the seasonal heat release from the global ocean north of 35°N keeps that area some 27°C warmer than it otherwise would be, a contribution equal to that of the atmospheric heat transport.

To check whether ocean heat transport plays a secondary role in determining regional climates around the North Atlantic we set up a computer climate model that eliminated the role of heat-movement by ocean currents, and analyzed these hypothetical results against actual observations. The results confirmed that the Gulf Stream has in fact very little influence on the enormous contrast in winter temperatures between eastern North America and western Europe, warming winters in both eastern North America and western Europe by about 2-3°C—only one tenth the size of each of the winter warmings attributable to atmosphere heat transport and seasonal heat release from the ocean.

Finally, we removed the mountains from the climate model, making the winds blow more along lines of latitude and weakening the winds in the north-south direction. The area of low pressure over the eastern seaboard of North America, a downwind response to flow over the Rocky Mountains, vanished. As a result eastern North America became 6°C warmer, and western Europe 3°C cooler.

In conclusion, we can state that about half of the total 15°C winter temperature contrast between eastern North America and western Europe is caused by the Rocky Mountains, while the other half is explained by the seasonal release of heat from the ocean mixed layer—basically the simple maritime-continental climate distinction—while almost none is explained by the Gulf Stream heat transport!

It will be interesting to see now whether the Gulf Stream-European climate myth dies, and the Loire Valley section of the Oxford Encyclopedia of Wine is promptly rewritten, or if, like Count Dracula, it joins the ranks of the undead haunting us long after its official demise.

Richard Seager is a Doherty Senior Research Scientist at LDEO.
A brief video on this subject may be seen at http://www.columbia.edu/cu/news/media/03/richardSeager/index.html

Seismic Micro-Technology Donates License for Software

In June 2003, Seismic Micro-Technology, Inc. donated to Lamont-Doherty the use of its Kingdom Suite+ software for a period of 16 months, with the possibility of renewal. The software is to be used to manage seismic data for use by review panels in the Ocean Drilling Program (ODP). When proposals are submitted to the review panels for use of the ODP drillship, the data sets are submitted digitally. The software will allow Lamont-Doherty engineers to display the information visually. Similarly, once a proposal has been accepted, the information needs to be sent to the ship. The Seismic software will be an element of the site survey package used for the scheduling of the ship. We hope that use of the software will become an integral part of the proposed Integrated Ocean Drilling Program as well (see accompanying IODP article).

On Our Bookshelf

Sea Legs: Tales of a Woman Oceanographer by Kathleen Crane.
Westview Press, 2003. 304 pgs

In this account of her nearly three decades in oceanography, Dr. Crane, a former adjunct senior scientist at Lamont, describes her struggles to overcome both gender discrimination and the secrecy and suspicion of Cold War politics in the pursuit of scientific discovery.

Upheaval from the Abyss: Ocean Floor Mapping and the Earth Science Revolution by David M. Lawrence.
Rutgers University Press, 2002. 284 pgs.

A history of the 130-year struggle to map the ocean floor, and the consequent development of the plate tectonics theory. Lamont's involvement in these efforts is among the stories chronicled by freelance journalist David Lawrence, a Lamont alumnus.

Plate Tectonics: An Insider's History of the Modern Theory of the Earth, Naomi Oreskes, editor.
Westview Press, 2001. 424 pgs.

This book tells the story of the modern revolution in earth sciences in the words of many of its leaders, including Lamont staff and alumni. Dr. Oreskes is an associate professor in the Department of History and Director of the Program in Science Studies at the University of California, San Diego.

Lamont Alumni Meeting and Reception

at the Fall Meeting of the American Geophysical Union

Thursday Dec 11, 2003
Crowne Plaza Union Square Hotel
480 Sutter Street, San Francisco
General Alumni Meeting -
Russian Hill Room (30th Floor)
5:30 to 6:30

Observatory staff and Alumni Association officers will present a review of what is new at the Observatory and with the Alumni Association. Refreshments will be served. All alumni are encouraged to attend.

Reception, sponsored by the Alumni Association –
Savoy Room (30th Floor) 6:30 to 8:30

Please join us for the traditional Lamont AGU Reception. All Lamont staff, alumni and their guests are welcome to attend.

For further information contact Doug Brusa, brusa@ldeo.columbia.edu, tel. 845-365-8850

The purpose of the Lamont-Doherty Alumni Association is to advance the interest and promote the welfare of Lamont-Doherty Earth Observatory and to foster communications and interactions among its alumni. The membership includes past Lamont-Doherty graduate students, postdoctoral fellows, scientists, visiting scholars, and employees.

Esther C. Dauch

"...in memory of my son and to commemorate his contributions to scientific literature and to Lamont-Doherty."

Bruce C. Heezen (1924-1977)

Bruce C. Heezen Research Chair

We are sad to report that Esther C. Dauch, mother of Bruce C. Heezen, died on July 2, 2003. She was 102 years old and lived in Pittsburgh, PA. Her executor has informed Lamont that the trust set up to endow a position in Bruce's memory has now been activated.

As many of you know, Heezen, along with fellow Lamonter Marie Tharp, was responsible for explorations and mapping of the ocean floor that contributed to the development and acceptance of plate tectonics theory. His research also showed the extensive layer of volcanic ash found in the Mediterranean Sea, evidence of the violent explosion of the island Thira in 1,400 BCE. This explosion is thought to have ended the Minoan civilization and given rise to the legend of the lost city of Atlantis. Heezen died in 1977 of natural causes while at sea aboard the nuclear research submarine NR-1.

Although his proposals were controversial in his day, it was Heezen's ability to draw broad implications from observational data that stands out as his major contribution to our present understanding of the planet. Income from the Dauch Trust, combined with that from funds Mrs. Dauch donated to Lamont-Doherty during her lifetime, will endow in perpetuity a Senior Research Scientist position at Lamont.

Mrs. Dauch had visited Lamont-Doherty several times, and was well acquainted with Heezen's work here. In 1998, Mrs. Dauch attended the launching of the naval research vessel USNS Bruce C. Heezen. As Mrs. Dauch wrote in 1999, her intent for the endowment was to establish a research chair "…in memory of my son and to commemorate his contributions to scientific literature and to Lamont-Doherty."

The search for the position of Bruce C. Heezen Senior Scholar is already underway, and it is expected to be a very competitive one, thanks in no small part to Mrs. Dauch's generosity.

With 2003 summer program students

alumna Profile

Students at work in the field

Suzanne O'Connell

In a variation of the classic telephone-to-the-ear photo, O'Connell chooses instead to use a rock.

Suzanne O'Connell spent a day this past July on the Connecticut River with urban high school students from a summer science program. A firm believer in hands-on learning, O'Connell asked her students if anyone wanted to try driving the boat. Her male students instantly volunteered, while her female students hesitated. However, once O'Connell decreed everyone was going to have the opportunity to drive, all but one of the girls were just as interested as their male peers. As a scientist and an educator, Suzanne O'Connell is passionate about getting people involved and interested in science. She wants everyone to get a chance to drive the boat.

After receiving her Masters degree under John Dewey at SUNY Albany and spending two years as the Science Coordinator for JOIDES, O'Connell came to Lamont for her Ph.D. She thanks Professor Denny Hayes (later her advisor) for encouraging her to apply to Lamont despite her fear of the foreign language requirement. Though she is reluctant to name the other Lamonters who influenced her - for fear of leaving someone out - she also mentions her other advisor Bill Ryan, Lisa Tauxe and Kerry Heggarty with whom she shared Lynn Sykes's house, and Walter Pittman and Mia Leo, the "guru" and "mother" of all graduate students, respectively. O'Connell also met her husband, Tom Christopher, at Lamont when she decided to practice playing bagpipes in the Oceanography parking lot and Tom, at the time in charge of restoring the Torrey Cliff gardens and grounds, came to investigate the unusual sounds. In 1986, she married Tom and received her Ph.D.

Though she and Tom have one son, Matthew, O'Connell has many other "children" in her professional life. Recently, she took a two year-leave of absence from her associate professorship at Wesleyan University in Middletown, CT, to head the Interdisciplinary Science Program at Trinity College in Hartford. The position enabled her to coordinate programs with a magnet high school in the area as well as establish a new environmental science major at the college.

O'Connell also tries to structure her undergraduate courses at Wesleyan to appeal to students who are not necessarily pursuing science careers. Currently, she is working with Wesleyan's new Green Street Art Center, located in a disadvantaged area of Middletown, trying to incorporate science into its projects, most of which are geared towards elementary and middle school students. "You can't wait until high school to get kids into earth science," she says. Her efforts to expand the audience for science education helped her win the Association for Women Geoscientists Outstanding Educator Award in 2000.

O'Connell's research focuses on sedimentology. With Joe Ortiz, a former Lamont post-doc now at Kent State, she has been examining diffuse spectral reflectance, which enables her to get a good data set with less need for invasive samples. She believes being a good scientist and a good educator go hand in hand, considering herself "split 50-50" between her roles as teacher and scientist. Getting students involved in research gives her "the biggest thrill."

Encouraging her female students is a particular concern; O'Connell makes sure to call on the girls in her classes and involve them in the more physical aspects of fieldwork to counteract their tendency to be less assertive than their male counterparts.

Working with a colleague on an NSF grant, O'Connell has also been investigating why the number of women in earth science, particularly at the Ph.D. level, remains so low. The findings were scheduled for presentation at a conference in late September. Though her work has found pragmatic concerns such as the lower salaries of academia compared to other professions, O'Connell says, "If you're crazed about [science], which I think I am, you have no choice." Suzanne O'Connell, devoted teacher-scientist, is trying to spread a little of that craziness to the next generation.

letter from alumni association president Jeff Fox

Jeff Fox, President of the Lamont-Doherty Alumni Association

Welcome to the newly redesigned Lamont newsletter for alumni and friends. We hope you will enjoy the new layout, and ask that you please continue to send us your comments and suggestions for future articles.

This edition went to press just after Lamont's annual Open House so that we would share some photographs of it with you (see page 5). Many of you know that Open House is a decades long wonderful tradition at Lamont, established when it was literally an open house (the Lamont family house now called Lamont Hall). It is now a big affair with dozens of tents and open laboratories, thousands of visitors and, in recent years, special alumni events.

At Open House this year we hosted an all-day open reception area for alumni, a general meeting for alumni, and an association board meeting. At the general meeting, besides meeting up with old friends and colleagues, alumni were treated to a "State of the Observatory" presentation by Lamont Director Mike Purdy. Among other business conducted at the board meeting, I am pleased to report that Mike Rawson was elected to serve on the board. Many alumni will remember Mike from his years of service in marine operations.

Our Open House meetings are just one of three reunions scheduled annually. These are held at Open House, at the AGU meeting in December, and at the Spring Alumni-Public Lecture. The first Alumni-Public Lecture, "Farms, Plagues and Climate", was given by Bill Ruddiman on April 27, 2003 and was a great success. It will be a hard act to follow, but we are already planning for the 2004 lecture (date to be announced).

I am pleased to report the introduction of a new alumni website and I encourage you to visit it (www.ldeo.columbia.edu/ldeo/alum/assoc/) and send your comments. Among new features are a "photo of the week" and a form to submit current contact information. We also have a list of lost alumni, people for whom we do not have current mailing addresses.

Alumni association website

Special thanks must go to our contributors, both alumni and friends, who make contributions that allow us to hold special events and communicate the good work of Lamont with you. Thank you for your continuing support.

For those of you who will be attending the Fall Meeting of the AGU in San Francisco, I hope to see you at our events on Thursday, December 11th. We will have a general meeting, including a State of the Observatory presentation by Mike Purdy from 5:30 to 6:30, followed by the traditional Lamont reception at 6:30. I hope to see many of you there.

Please visit Lamont's redesigned website: www.ldeo.columbia.edu

The alumni association board met October 4, 2003 at Open House. Pictured from top, clockwise are: Mike Purdy, LDEO Director with board memebers W. Arnold Finck, Bill Ryan, Joyce O'Dowd and newly-elected member Mike Rawson. Association President Jeff Fox participated in the meeting via telephone from Texas.

From the Archive

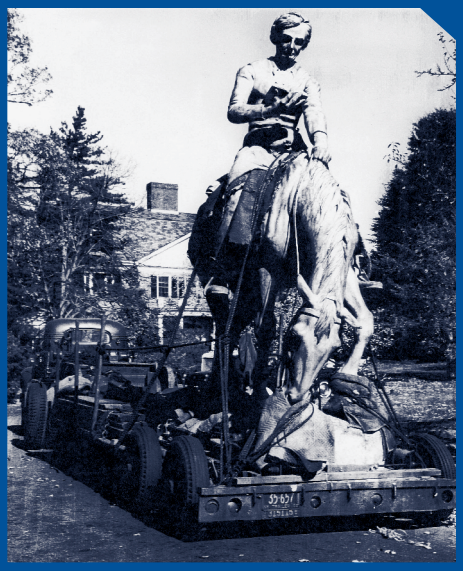


Photo Credit: Howard Wehner, Lamont Geological Observatory

A familiar Lamont landmark arrives on campus in October 1965, transported from the Modern Art Foundry in Queens, NY. Called “Lincoln the Young Scholar” or “Lincoln on the Prairie,” the statue is one of several castings of the sculpture by the artist Anna Hyatt Huntington (1876-1973), who donated it to Columbia. We know of several other castings in various sizes and locations around the world including Adrian, MI; Hoboken, NJ; San Antonio TX; Springfield, IL; Syracuse, NY; Lincoln City, OR; and near Salzburg, Austria.

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