Lou Maher at Parfrey's Glen

Clay Kelly

"Out with the old and in with the new!" The passing of 2002 saw the successful completion of several research endeavors, and the beginning of several others. **Rebecca Tedford** presented the results of her Master's thesis research at two national meetings this past year. Rebecca has been using deep-sea cores recovered from the Tasman Sea to document regional microbiotic and sedimentological responses to a worldwide change in carbon cycling that occurred roughly seven million years ago during the late Miocene. Rebecca's research will be published in a forthcoming *Geophysical Monograph Series* devoted to the history of the Southern Ocean.

Liz Leslie has kicked off her PhD research investigating conspicuous clay-mineral assemblage changes reserved in the Williston Basin of western North Dakota. We believe that the clay-mineral assemblage changes reflect intensified chemical weathering of continental rocks during a short-lived pulse of extreme climatic warmth. This transient warming took place approximately 55 million year ago at the close of the Paleocene epoch and had profound consequences for the global biosphere, affecting everything from deep-sea microorganisms to large land mammals. Of particular interest, is a major perturbation to Earth's global carbon cycle that coincided with this warming event. The geochemical fingerprint of this carbon cycle perturbation is recorded in marine carbonates, pedogenic (soil) nodules, organic carbon, and the enamel of land mammal teeth; clear evidence that the Earth's atmosphere, hydrosphere and biosphere were all affected. The amplitude (~4 ‰) and abrupt nature ($<10^4$ years) of this isotopic excursion cannot be explained by conventional carbon cycling models, and it is now believed to signify a catastrophic release(s) of massive quantities (1.4 to 1.8 X 10^{18} grams) of methane from the seafloor. Liz will be working with **John Valley** and **Mike Spicuzza** in an attempt to detect this geochemical anomaly in fossil plants found in her study area. Documentation of this geochemical anomaly will permit Liz to correlate the clay-mineral assemblage changes seen in western North Dakota with other geologic records around the world! Liz is also collaborating with **Brad Singer** and **Mike Smith** on obtaining a radioisotopic age for a late Paleocene bentonite/tuff preserved throughout the northern sector of Teddy Roosevelt National Park in western North Dakota.

Three promising, hard-working undergraduate majors (**Adam Eisenach, Mark Hagge,** and **Peter Gill**) have joined our micropaleontology group, and are actively researching various aspects of biotic evolution in the marine microplankton.

As for myself, I've managed to clear off my desk three papers, two dealing with microplankton responses to ocean/climate change, and a third on glassy microspherules most likely formed by a meteorite impact. I will have also been invited to participate as a shipboard scientist on an upcoming Ocean Drilling Program cruise. ODP Leg 208 will be drilling deep-sea sedimentary sequences along a depth transect atop the Walvis Ridge in the southeastern Atlantic Ocean. We hope to recover spectacular records of some of the major events in Earth history, most notably the Cretaceous/Tertiary boundary (i.e. the mass extinction that brought an end to the reign of the dinosaurs), Liz's Paleocene/Eocene boundary event, and Earth's transition into its "ice-house" climatic mode at the Eocene/Oligocene boundary.

On the teaching front, I've enjoyed lecturing for Survey of Oceanography, Geobiology, and Micropaleontology (that's right **Dr. Clark,** micropaleo's back). I am looking forward to co-teaching a summer field excursion to Dinosaur National Monument in Utah with **Basil Tikoff**. I would also like to personally thank **Dana Geary** and **Charlie Byers** for graciously agreeing to teach the second half of Geobiology this semester while I am out sailing on the high seas.

Louis J. Maher

It was just yesterday that I sat down at my desk in 70 Science Hall. The new microscopes that **Stan Tyler** had ordered while I was in Cambridge were on the bench behind me, and as soon as **Brad Macurda** finished his blastoid dissertation and graduated, I was going to convert his adjacent office into a pollen lab. The phone rang but it was for **Bull Bailey**; we shared a party line. I pushed a button on the wall to let him know he should pick up the receiver. He would do the same if he answered, and it was for me. (Only later did I discover his button that summoned me was labeled "boy.")

Bob Dott had been anxiously waiting for my arrival because I was to take over his duties of directing the department's teaching assistants who handled the Geol. 1a labs for **Con Emmons** and **Lowell Laudon**. Almost a thousand students a year were taking those labs, and that required devising eleven different routes for the Baraboo field trip so the buses did not jam up on the same outcrop. I was lecturing in Geol. 17, and to learn the secrets of the master teachers, I sat in on both 1a lectures. They were absolutely different; I was amazed that the students of both thought they were great. Chairman **Lewis Cline** had arranged for me to take the summer field course in the Rocky Mountains with **Dick Paull** and his Milwaukee students. **Bob Gates** and **Gene Cameron** provided good suggestions for things to do and see. **Charlie Schweger** was taking my pollen course, and it looked like he was going on the summer course too, so we arranged to share the green state-owned station wagon. The other students were trying to share rides with someone who had a car. There were four students in each tent that was just large enough to hold four sleeping bags on the floor.

It was just yesterday—forty-one years ago. During those years I have had the enthusiastic help of some 200 able TA's. I suppose I have lectured

to more than five thousand undergraduates. I will be retiring at the end of the summer of 2003. The time has flown.

Jane and I spent a month in southern France during the summer of 2002. I collaborated with Andy Lotter of the Netherlands on a chapter for a book of pollen analytical techniques. **Phil Brown** covered a couple of Geol. 101 lectures for me while I attended a conference in London, and I have just completed a paper for the proceedings volume. Ken Lange (former Naturalist at Devils Lake State Park) and I ran a day's trip to the Baraboo region for the Botanical Society of America that met in Madison during August. I sold my 1971 MG Midget to thin-section maker (and former student) **Brian Hess**, so it will retain its affiliation with the department. I have had remarkably fine colleagues here at Madison; it really is a great department.

Dave Mickelson

It's been a busy year for the Quats! We are in our final year of our southern Laurentide Ice Sheet project and postdoc **Andreas Bauder** is working hard to get some results from a 3-d model we started to use this year. **Cornelia Winguth** continues to work as an Assistant Scientist on the Scandinavian Ice Sheet project, along with taking care of a baby boy born this summer while on their family vacation to Lake Superior. In January Vin and I went to Santa Cruz to work on organizing a volume on U.S. eroding bluff shorelines and to enjoy warm temperatures and sunshine. **Anders Carlson** finished his MS thesis and has moved on to Oregon State University for his PhD. Field work began in St. Croix County, where **Hans Hinke** is doing an MS thesis. I then spent a week in the Uintas with **Ben Laabs** working on an evaluation of the geomorphology and glacial history of the south side of the range. Then Vin and I went to Norway and Sweden to work with **Jessica Darter** and colleagues from the Norwegian Survey. Our shoreline work continues with **Lindsay Anderson** planning to finish her thesis in 2003. Summer was saddened by the death of my mother in July, and we spent time in Massachusetts in late July. A month later, son John, who graduated in May, moved to Cambridge where he now works at Harvard. Amy continues to live in Milwaukee. Our daughter Becca, married in September, and they live in Middleton. Along with all of the above, I finally had my barn built in Dodgeville, a good home for my six old tractors! The year ended with a trip to Patagonia with **Danny Douglass, Brad Singer,** and **Mike Kaplan**, former Weeks Postdoc now working in Scotland. We had a Christmas dinner of frozen pizza cooked at a gas station on our way across Argentina!

It was great to see many of my friends at GSA in Denver, where the former Quats got together for dinner one evening. Try to make the next one! Photos are at:

http://www.geology.wisc.edu/alumni/current_events/quat_dinner.html

Toni Simo

The year 2002 found me traveling between Barcelona and Madison as I continue my teaching and research at UW-Madison part-time and complete research avenues at the University UPC in Barcelona. I found this interaction between two worlds stimulating and challenging. Research in the carbonate group continues active in many area and topics. In May, in less than 48 hours, **Norlene Emerson** (PhD)**, Liz Leslie** (MS)**, Kate McColgin** (MS) and **Michelle Stoklosa** defended successfully their theses and moved on to different projects (Norlene is teaching at UW-Richland Center, Liz is doing a PhD with **Clay Kelly**, Kate works for Conoco-Phillips, and Michelle is at the U. Idaho). Aspirins circulated freely during the talks to diminish the carbonate overdose. With Norlene ends a time of intense work in the Decorah Formation. Luckily, **Steve Beyer** (with **Byers**) and **Lauren Chetel** are taking the lead of new Ordovician studies in Iowa and Minnesota. Michelle and Kate did a fantastic job in the Oligocene and lower Miocene in the SE of Spain to realize that better age is needed. This has become a new project in collaboration with the University of Barcelona in establishing a new chronostratigraphy for the western Mediterranean and Oman based on large benthic foraminifera.

Lauren Chetel and **Wasinee Aswasereelert** jointed the program in the fall. Lauren (MS) is working with **Brad Singer** and me in the age dating of Ordovician K-bentonites to establish an Ordovician chronology, estimate rates of surficial processes on epeiric seas, and tie the stratigraphy to Taconian orogenic events. Wasinee is doing research in the local Cambrian section, the Eau Claire Formation, an aquitard, of interest to the Wisconsin Geological Survey.

Leonardo Piccoli continues his thesis dedicated to bridge the gap between outcrop studies and seismic via GPR and synthetic seismic. Excellent GPR (thanks to **David Alumbaugh, Neal Lord, Rob Pyzalski** and **Bill Unger** for their involvement) results with penetration of 60 m in the Wolfcampian, Hueco Mountains have our hopes high as we are integrating this work with a recently donated Wolfcampian 3D seismic survey in the Midland Basin by Oxy (thanks **Bill Fitchen!**). Several oil companies have shown interest and are supporting a new survey in the Guadalupe Mountains. **Essam Sharaf** and **Martin Shields** continue to unravel the paleontology, sedimentology and basin evolution of the East Java Basin. This project is collaboration with **Alan Carroll** involved a second field season for Essam and me in remote areas of Java. However, this time we had the help of four Indonesians to solve logistic and field problems. The continuing deforestation of East Java allows the first detailed work on the exposed carbonate rocks, equivalent to prolific mound reservoirs in the subsurface. **Olga Rey** continues her work in La Luna mud rocks in Venezuela investigating the Cretaceous epeiric sea

Distinguished Lecturer Jerry Harris, left, chair of the geophysics department of Stanford University and David Alumbaugh, right, talked in the Cline Lounge after Dr. Harris's presentation (Crosswell Seismic Profiling: The Decade Ahead) on Dec. 6, 2002. (photo by Mary Diman)