

Sedimentary Geology Division

GEOLOGICAL SOCIETY OF AMERICA

Volume 17, Number 1

Spring 2003

TABLE OF CONTENTS:

Message from the Chair.....	page 1
Annual Meeting Report	page 3
Outstanding Student Research Award	page 3
Geology and Paleontology Update from NSF	page 4
Sessions of Interest: GSA Meeting 2003	page 5
Pardee Symposium ...Human Evolution	page 6
Clinofolds: Past, Present and Modeled	page 6
Innovative Approaches to Teaching Sedimentary Geology Courses	page 7
Extreme Depositional Environments: GSA Special Paper 370	page 7
Great Lakes Section: SEPM Field Conference	page 7
Montgomery's "Sand Hill" Locality.....	page 8
Ballot for the Election of SGD 2003-04 Officers.....	page 9

MESSAGE FROM THE DIVISION CHAIR:

One might ask, "What are the forefront issues in Sedimentary Geology today?" and "Where is the field heading?" For many of us, stratigraphy is the key to unraveling the time dimension of geologic studies. This chronologic perspective is what sets geology apart from many other physical sciences and provides the critical context of natural rates of change against which modern rates and anthropogenic impacts can be assessed. As a consequence, the ability to create reliable time control from the stratigraphic record is of key importance. Over the past few decades, successive improvements in techniques for delineating stratigraphic time have yielded the higher precision and better accuracy that set the stage for reliable correlation and investigation of causality as captured by the sedimentary record. These new techniques permit tests of fundamental concepts, such as the isochrony of sequence boundaries, reliable correlation of disparate stratigraphic records, and assessments of the leads and lags in climatic signals.

One might argue that this is the era of isotope stratigraphy. Just as sequence stratigraphy, during the past 3 decades, has provided a valuable interpretative framework linking controlling variables with the sedimentary record, isotopes are now being used to reconstruct past environmental conditions with unprecedented detail. Almost every time I browse through *Geology*, I am struck by the clever ways isotopes are being exploited to reveal Earth history with increased clarity as new tests of past sea-surface temperatures, provenance, early life, lake geochemistry, or diagenetic conditions are described.

The explosion in computational firepower has paved the way for a new generation of numerical models providing quantified scenarios that permit exploration of potential interactions in earth systems. The predictions of such models are stimulating new interpretations of the stratigraphic record, new insights on sedimentary processes, and increased awareness of sediment responses to controlling variables. Nanotechnology is permitting the miniaturization of sensors and data loggers that allow us to unobtrusively investigate physical and chemical sedimentary processes. As more innovative and diverse experimental laboratories are developed, process sedimentology is blossoming as a discipline that expands well beyond traditional flumes and stream tables. The controlled experiments run on these ski-jump-sized debris flow channels or in differentially subsiding sediment tanks are facilitating new insights on key sedimentary processes, as well as controls on the

Message from the Division Chair, *continued*

stratigraphic record. Now you need merely to go online to see hydroplaning turbidity currents, chaotic debris flows, and sediments displaying equal mobility along a channel.

Within this newsletter is a listing of a selection of topical sessions that have been approved for this fall's annual GSA meeting to be held in Seattle. Beyond many of the subjects that might be considered closely aligned with the core of traditional sedimentology and stratigraphy (clinoforms, sabkhas, black shales, petroleum systems and basin processes), we include some sessions that might commonly be perceived as more central to geochemistry or Quaternary geology. In my view, these interdisciplinary sessions that bring stratigraphy and sedimentology into the Quaternary realm with its superb time control or that exploit multi-proxy records to examine Mesozoic climate change or anthropogenic influences on Holocene sedimentation represent some of the most exciting frontiers for those concerned with understanding the stratigraphic record and sedimentary processes. Such studies that combine geochemistry, surface processes, or geophysical tools with stratigraphy or sedimentology represent nontraditional but burgeoning opportunities for forefront research.

With respect to the Seattle meeting, I want to remind you that the deadline for abstracts is July 15. Log on to the GSA website <www.geosociety.org/meetings/2003/techprog.htm> to review the array of topical sessions. In the context of deadlines, the June 1 NSF deadline has been moved for the "Geology and Paleontology" program. Beginning this summer, the deadlines will be July 15 and January 15. Moreover, as described in a following contribution from Rich Lane, the Geology and Paleontology program may soon be split into three separate programs, each with its own panel and funding.

At the last Seattle GSA meeting nearly a decade ago, I tried to organize a session that bridged between the geomorphic studies in upstream catchments and the stratigraphic studies of basins. Although simple in concept, I found it difficult to locate researchers who were effectively spanning these realms. One group would work on the liberation of sediment from the landscape, another on sediment transport, and a third on deposition. Although there are still many groups successfully focused on these specific realms, integrative studies are gaining increasing momentum.

Two recent programs capture these more integrative impulses. First, the "Source to Sink" initiative within the MARGINS program at NSF explicitly focuses on quantitative understanding of sediment dispersal systems <www.ldeo.columbia.edu/margins>. Although still gaining its legs as a research initiative, it is clear that tracking sediments from hillslopes to oceanic basins is a core emphasis. Second, last year the National Center for Earth-surface Dynamics (NCED) was established as a new NSF-supported Science and Technology Center. This multi-institutional center (University of Minnesota, Fond Du Lac Tribal and Community College, MIT, Berkeley, Princeton, Science Museum of Minnesota) has its primary home at the St. Anthony Falls Laboratory of the University of Minnesota and will receive ~\$19 million over the next 5 years. NCED's goal is to "identify and quantify the major physical, biological and chemical processes that shape the Earth's surface." Although studying disparate physical environments, the focus is on the underlying unifying processes and critical interactions among these processes. Such studies do provide that linkage between mountains and basins that was tough (for me) to find 10 years ago. Through integrative studies bridging hydrology, sedimentary geology, geomorphology, biology, oceanography, engineering, and geochemistry (among others), one goal of NCED is to develop a suite of quantitative models of the Earth's surface (a "Community Sediment Model") both for short-term prediction of responses to natural and anthropogenic change and for interpretation of how past conditions at geologic time scales are recorded in landscapes and sedimentary strata. Another focus is on "sustainability and restoration of landscapes and associated ecosystems" and on the "judicious use of landscape and seascape resources." For those of you unfamiliar with the St. Anthony Falls lab, it boasts a stunning array of experimental facilities (wind and water tunnels, numerous flumes and experimental basins, testing and calibration centers). It is home to Jurassic Tank (designed to model differentially subsiding basins), flumes more than 80 m long and nearly 3 m across, and a fabrication facility (to build your own flume, not manufacture data!)

To learn more about this center, visit their website <www.nced.umn.edu>. Here, I would like to point out that there are many opportunities to participate in this new center. There are research internships for undergraduates and grants for both domestic and international university researchers, as well as governmental and industry researchers, to come to NCED. Graduate summer schools, post-doctoral fellowships, short courses for undergraduate teachers, industrial workshops, and specialized topical workshops are open for your participation.

As many of you have heard, Earthscope <www.earthscope.org> has been funded this year at \$30 million. Over the next five years with continued funding, the infrastructure for this program will be developed, primarily in the western United States: hundreds of seismometers, continuous GPS sites, down-hole strainmeters, and the San

Message from the Division Chair, continued

Andreas Fault Observatory at Depth. What does this have to do with sedimentology and stratigraphy? Within Earthscope, the science plan is still emerging. There will be a large instrument pool that will be deployed to achieve more regional or localized scientific objectives in response to new research proposals. Now is the time to start talking with geophysicists and geodesists to hatch new strategies that will exploit seismology, strain, sedimentology, and stratigraphy to solve key problems related to the building of our continent. New funding for scientific research (as opposed to infrastructure) related to Earthscope will be forthcoming in the near future.

So, let me encourage you to explore new realms of sedimentology and stratigraphy, to seize the opportunities to embark on cutting-edge research, and to share your exciting and provocative results with us in upcoming meetings. Both GSA and the division need your energy, ideas, and participation.

Doug Burbank, Sedimentary Geology Division Chair

Department of Geological Sciences
University of California
Santa Barbara, California 93106

e-mail: burbank@crustal.ucsb.edu
phone: (805) 893-7858
fax: (805)893-8649

2002 ANNUAL MEETING REPORT: SEDIMENTARY GEOLOGY DIVISION (SGD)

The 2002 Annual Meeting in Denver included many Division activities. We sponsored (or co-sponsored) a number of technical sessions with our Associated Society SEPM (Society for Sedimentary Geology). Forging stronger ties between SGD and SEPM continued in Denver, as officers from SEPM attended the SGD board meeting. We will continue to work with SEPM leadership to strengthen both groups and their activities.

Following a morning meeting of SGD's Management Board, the festivities began Tuesday evening at the Business Meeting and Awards Ceremony. Raffle tickets were sold, drinks flowed, and goodies were consumed as the crowd gathered. Members of the Management Board, standing committees, ad hoc committees, and SEPM representatives were introduced and thanked for their continued contributions to the Division. Secretary/Treasurer Paul Link assured us that the Division is in sound financial shape. Howard Harper, SEPM Executive Director, and GSA Headquarters staff, were thanked for their outstanding raffle donations.

Guillaume Dupont-Nivet, a Ph.D. graduate of the University of Arizona, and now a post-doc at UCLA, received the Student Research Award for his proposal to study "*Testing northward propagation of the Tibetan uplift by magnetostratigraphic dating in Eastern Tibet.*" He received \$1000 from the Division as an award, plus \$750 additional support for his travel to the GSA meeting.

The highlight of the evening occurred with presentation of the Laurence L. Sloss Award for Sedimentary Geology to Allison R. (Pete) Palmer. Citationist Paul Link summarized Pete's many contributions to science, education and GSA. Pete responded with warm recollections of his many years of research involving Cambrian litho- and biostratigraphy.

The evening concluded with our annual raffle, during which many books, shirts and other useful items were dispensed. Additional consumption of food and drink followed. Hope to see you in Seattle next year!

Steve Driese, Past Chair

2002 SGD OUTSTANDING STUDENT RESEARCH AWARD

It was a great surprise and honor to receive this year's outstanding student research award from the Sedimentary Geology Division. Thanks to this award, my project, *Testing northward propagation of the Tibetan uplift by magnetostratigraphic dating in Eastern Tibet*, has been undertaken during last summer. The \$2000 grant was used for an important aspect of the project, namely to buy my plane ticket to China! Since the field season, I was able to gather enough preliminary results to present at the last Annual GSA Meeting. These results show an unexpected pattern of deformation in Eastern Tibet that may be a key to understanding the development of the Tibetan plateau. This grant has also permitted collaborating with Dr. Brian K. Horton in the field who has genially offered to mentor a "post-doc" at the University of California Los Angeles where I am presently working. Among the people and institutions responsible for this award, I would like to thank the GSA for providing the unique and stimulating opportunity to learn how to write a grant proposal. My previous attempts to obtain student support from GSA were unsuccessful but the valuable criticism offered by the GSA reviewers has greatly helped to improve my writing skills. Also responsible for this award is the generous support given by the University of Arizona and my advisor Dr. Robert F. Butler throughout my Ph.D. Finally, the Sedimentary Geology Division led by Dr. Steven G. Driese granted a \$750 travel supplement that made attending the GSA

2002 SGD Outstanding Student Research Award, *continued*

Annual Meeting possible. The warm welcome and congratulations given by all the eminent Sedimentary Geology Division officers as well as this year's Sloss award recipient, Dr. Allison R. Palmer, made an impression on me that I will never forget!

Guillaume Dupont-Nivet, 11/01/02

GEOLOGY AND PALEONTOLOGY UPDATE FROM NSF

This newsletter summarizes changes and activities that are taking place in the Geology and Paleontology Program at NSF. They can be divided into several categories: Organization, People, Budget, Special Programs/Initiatives, and Program News.

Organization: We are guardedly optimistic that exciting changes in the organization of the Geology and Paleontology (GE) Program are on the horizon. As most of you know, scientifically, GE represents an inordinately large chunk of the Earth Sciences, being the funding home for Geomorphology, Sedimentology, Stratigraphy, Paleontology and Low Temperature Geochemistry. With the current NSF focus of using science to help solve human and societal needs, this area of the Earth Sciences takes on a new level of importance. For these and other reasons, we are developing a plan to reorganize GE into three programs (Earth Surface Processes, Stratigraphy and Paleobiology, and a third program in the area of Biogeosciences/Low Temperature Geochemistry). It is hoped that this organization will be implemented within the next year, but that is dependent upon FY 2003 budgets and FTE allocations that are still not resolved. The current expertise of the Program Directors covers the latter two areas and thus, if implemented, requires the hiring of one full time Program Director for the new Earth Surface Processes Program. For those of you seasoned earth surface process scientists who are interested in a career change, please be alert for a future announcement of such an opening (possible!!) at NSF.

People: GE is staffed by two permanent Program Directors — H. Richard Lane and Enriqueta Barrera — and one Program Assistant — Felicia Smith. The EAR Division, directed by Hermann Zimmerman, has recently hired two people to act as EAR Division Section Heads. Jim Whitcomb has been hired as the Section Head for the Special Projects Section and Walt Snyder, Boise State, was hired as an interim Section Head for the Research Grants Section, the latter being that section in which GE resides. Many other EAR Division staffing changes have occurred in the last couple years and the current staff can be found on the EAR Division website at <<http://www.geo.nsf.gov/ear/start.htm>>.

Budget: Congress and the President have NSF on track for doubling its budget in 5 years. This fiscal year (2003), EAR is receiving a 12.45% increase. Along with these recent NSF budget increases, the GE Program has fared budgetarily very well over the last several years. Nevertheless, the program is not nearly where it needs to be relative to the size of the community and the proposal pressure it handles. Although not yet finalized, we anticipate our FY 2003 budget to be approximately 11.1 million dollars.

Special Programs: There are numerous NSF special programs that should be of interest to the GE community as funding sources. These special programs generally last for 3-5 years, require multidisciplinary team approaches, and commonly fund larger requests. Some of these include:

Collaborations in Mathematical Geosciences (CMG): <<http://www.nsf.gov/pubs/2003/nsf03508/nsf03508.pdf>>.

Assembling the Tree of Life (ATOL): <<http://www.nsf.gov/pubs/2003/nsf03536/nsf03536.pdf>>.

Biocomplexity in the Environment (BE): Integrated Research and Education in Environmental Systems: <<http://www.nsf.gov/pubs/2002/nsf02167/nsf02167.htm>>.

Earth System History (ESH): <http://www.nsf.gov/pubs/ods/getpub.cfm?ods_key=nsf02191>.

Information Technology Research (ITR): <http://www.nsf.gov/pubs/ods/getpub.cfm?ods_key=nsf02168>.

Research in the Biogeosciences: <http://www.nsf.gov/pubs/ods/getpub.cfm?ods_key=nsf02172>.

Major Research Instrumentation (MRI): <<http://www.nsf.gov/pubs/ods/getpub.cfm?nsf01171>>. We are told that there are a lot of opportunities for small to medium size schools in the MRI Program.

Faculty Early Career Development (CAREER) Program: <http://www.nsf.gov/pubs/ods/getpub.cfm?ods_key=nsf02111>.

Science and Technology Centers (STC): Information on the next competition will be forthcoming soon.

GeoInformatics: NSF is emphasizing the need for development of a cyberinfrastructure across all of science and engineering. The community has coined the term "GeoInformatics" for cyberinfrastructure applied to the Earth Sciences. GeoInformatics is an information technology system that will provide earth scientists with the tools necessary to conduct the next generation of geoscience research. GeoInformatics is designed to take

Update from NSF, continued

advantage of powerful new information technologies such as Geographical Information Systems (GIS), remote sensing, scientific visualization, information networks, and wireless applications in a truly integrated manner. The emphasis of a GeoInformatics system is on providing seamless and easy access to: 1) extant and future earth science research data, 2) research-grade tools to manipulate, mine and analyze interdisciplinary data, and 3) computational resources necessary to model earth system processes. The "system" would include a scalable hierarchy to accommodate expansion, contraction, and relocation of resources as needed. The network must be highly inter-operable with scientific and data model standards. The management structure will ensure community-based oversight of the system.

Consortium of Universities for Advancement of Hydrologic Science, Inc. (CUAHSI) is a consortium of 68 universities organized to foster advancements in the hydrologic sciences, in the broadest sense of that term, by: (1) Developing, prioritizing and disseminating a broad-based research and education agenda for the hydrologic sciences derived from a continuous process that engages both research and applications professionals; (2) Identifying the resources needed to advance this agenda and facilitating the acquisition of these resources for use by the hydrologic sciences community; and (3) Enhancing the visibility, appreciation, understanding, and utility of hydrologic science through programs of education, outreach, and technology transfer.

Although there are 68 participating universities at this time, participation is unlimited. If you are interested in your university participating, please contact Marshall Moss at <memos@worldnet.att.net> or Rick Hooper at <rhooper@agu.org>. Additional information can be found at <<http://www.cuahsi.org>>.

PROGRAM NEWS: Submission Deadlines: GE is changing proposal submission deadlines from the former ones to July 15 and January 15. This change will take place immediately so that the next deadline will be July 15, 2003. In this scenario, the fall panel will be held in late October or early November and the spring panel will be in late April or early May. This does not affect other programs within EAR; they will remain with the traditional June 1 and December 1 deadlines.

Rate of Funding Success: The average annual proposal funding success at NSF is about 30%. Since 1999, the percentage success in GE has hovered at or just below this level (e.g., 1999-30%; 2000-28%; 2001-28%; 2002-27%). We are being asked at the highest levels of NSF to increase the monetary size of our grants while extending their duration. This is counter to the way that we have been apportioning available GE funds to PIs. However, for the long-term financial health and growth of NSF and GE, we feel compelled to follow the instructions given us. Therefore, we encourage you to consider submitting financially larger grants of greater duration. This may lead to a lower rate of success for submitted proposals. Of course, within this scenario, those of you who are successful will not be expected to be submitting proposals as frequently.

SESSIONS OF INTEREST AT THE SEATTLE GSA MEETING 2003

Many of these sessions will be sponsored by the Sedimentary Geology Division.

PARDEE SYMPOSIUM:

P4 Neoproterozoic Geobiology: Fossils, Clocks, Isotopes, and Rocks

P6 The Paleoenvironmental and Paleoclimatic Framework of Human Evolution

TOPICAL SESSIONS:

T26 Quantitative Modeling of Petroleum Systems and Basin Processes

T65 Evolution and Migration of Brines in Sedimentary Basins

T75 Human Versus Natural Influences on Holocene Sedimentation in Estuaries, Harbors and Marginal Marine Ecosystems

T81 Multi-Proxy Terrestrial Records and Ocean-Climate System: Links and Perturbations in the Cretaceous

T89 Evolutionary and Ecological Links Between Terrestrial and Marine Ecosystems in the Phanerozoic

T99 Soils and a Sustainable Future-The Neglected Challenge in Geology: A Tribute to the Many Contributions and Challenges of Aldo Leopold

T103 Comprehensive Landscape Analysis - A Predictive Tool for Mapping Surficial Deposits and Their Environmental Attributes

T106 Quaternary History and Stratigraphy of the Pacific Northwest

T108 Sedimentary Records of Rapid Ice Sheet Decay and Intensive Ice-Calving Events

T114 Isotopic Determination of Sediment Provenance: Techniques and Applications

T115 New Applications of Provenance Analysis to Landscape Evolution and Sediment Transport Systems

T116 Sabkha Environments, Recent Insights

T117 Influence of Tsunamis in the Geological Record

T118 From the Abyss to the Beach: In Honor of Orrin H. Pilkey

Sessions of Interest, continued

- T119 Revisiting the Biogeochemistry of Black Shales and Oxygen-Deficient Marine Environments
T120 Sedimentology and Oceanography of Phosphogenic Systems
T121 Fortieth Anniversary of Sloss's Cratonic Sequences: Sequence Stratigraphy of the Sauk Sequence
T122 Clinoforms: Past, Present, and Modeled
T123 Advances in Stratigraphic Analyses Using Ground Penetrating Radar
T127 New Perspectives on Neoproterozoic-Early Paleozoic Development of Western Laurentia: In Honor of John Cooper
T128 Barremian to Turonian Carbonate Platform Facies in Northeastern Mexico, their Paleogeographic, Paleooceanic, and Paleoclimatic Implications: Comparison with Coeval Facies Elsewhere in the Tethys (**Posters**)
T129 The Jurassic System of North America: Stratigraphy, Tectonics, and Depositional History (**Posters**)
T142 Structure and Stratigraphy: New Perspectives on Lithotectonic Processes

FIELD TRIPS OF INTEREST:

- Glacial Lake Missoula**, Clark Fork Ice Dam and the Floods Outburst Area: Northern Idaho and Western Montana
Sequence Stratigraphy of the Sauk Sequence: 40th Anniversary Field Trip in Western Utah
Coastal Evolution, Dynamic Shoreline Processes, and Beach Management Controversies of the Columbia River Littoral Cell, Southwest Washington and Northern Oregon
Regional Tertiary Sequence Stratigraphy and Regional Structure on the Eastern Flank of the Central Cascade Range, Washington
Pleistocene Tephrostratigraphy and Paleogeography of Southern Puget Sound Near Olympia, Washington
Holocene Lahars Along the White River Between Mount Rainier and Seattle

PARDEE SYMPOSIUM -**PALEOENVIRONMENTAL AND PALEOCLIMATIC FRAMEWORK OF HUMAN EVOLUTION**

The Sedimentary Geology Division will be co-sponsoring, along with the Archaeological Geology Division and the Quaternary Geology and Geomorphology Division, a Pardee Symposium which will be convened by Gail M. Ashley and Craig S. Feibel, Rutgers University.

Session Description (for program): Recent discoveries and established facts regarding the paleoenvironment and paleoclimatic context of human evolution will be examined with the goal of shedding some light on the puzzle of human origins.

Format: We plan 12 oral presentations with the first two being 30-minute overview talks: one on climate during the last ~6 million years (by William Ruddiman) and the other on human evolution during the same time period (by Bernard Wood). The other 10 speakers will present their perspectives (in 15-minute talks) representing key locations from around the globe (South Africa, East Africa, China, Europe, and North and South America). We plan on two 15-minute discussion periods dividing the session into 3 segments.

Gail M. Ashley, Rutgers University, (732) 445-2221; <gmashley@rci.rutgers.edu>

TOPICAL SESSION, T122 - CLINOFORMS: PAST, PRESENT AND MODELED

Clinofoms are the fundamental units of prograding strata. They occur in deposits ranging in scale from bedforms to deltas to continental margins. They are independent of sediment type, occurring in siliciclastic, carbonate and mixed sedimentary systems. Clinofoms dominate the stratigraphic record in many locations. For example, the stratigraphy of most continental margins consists of numerous, superimposed clinofoms.

Clinofoms are the product of high sediment accumulation rates, and so demarcate strata that preserve high-resolution records of Earth processes and history. The shapes of clinofoms (e.g., sigmoid vs. oblique) are thought to be indicative of different depositional environments, while the stacking of clinofoms has been used to infer the interplay of sediment supply, subsidence and base level (e.g., eustacy).

Clinofoms have been studied in modern sedimentary environments, in the ancient rock record, in the laboratory and through numerical modeling. However, no attempt has been made to assemble the diverse knowledge gained about clinofoms through these different forms of investigation. The GSA Annual Meeting is an excellent venue for sharing such different perspectives on clinofom formation, because the meeting brings together all segments of the community investigating clinofoms.

For more information, please contact: Lincoln Pratson <lincoln.pratson@duke.edu>, Chuck Nittrouer <nittroue@ocean.washington.edu> or David Mohrig <mohrig@mit.edu>.

INNOVATIVE APPROACHES TO TEACHING SEDIMENTARY GEOLOGY COURSES

Session Description: This session will focus on instructional techniques that integrate research advances, innovative pedagogies, and applications to other geoscience fields. Authors may address overall course structure, learning objectives, specific assignments, and/or assessment methods.

Rationale: Sedimentary geology courses are essential components of the core curriculum for geology majors. Once a descriptive science, the field has in recent years become more quantitative. Once applied primarily to the petroleum industry, the knowledge of sedimentary processes has become increasingly important for environmental applications such as climate studies and hydrogeology. Classroom pedagogies are also evolving as innovators move from lecture-focused to more student-centered approaches. This session will provide a forum for exchange of ideas to stimulate further curriculum development and will demonstrate the expanding linkages of sedimentary geology to other geoscience disciplines.

Conveners/Contacts: **Karen Grove**, San Francisco State University, <kgrove@sfsu.edu>; **Marjorie A. Chan**, University of Utah - Salt Lake City, <machan@mines.utah.edu>; **R. Heather Macdonald**, College of William and Mary, <rhmacd@wm.edu>.

COMING SOON!

"EXTREME DEPOSITIONAL ENVIRONMENTS: MEGA END MEMBERS IN GEOLOGIC TIME," **GSA Special Paper 370** edited by Marjorie A. Chan, University of Utah, <machan@mines.utah.edu> and Allen W. Archer, University of Kansas, <aarcher@ksu.edu>.

This compilation of papers is a synthesis of some of the largest depositional systems, designed to stretch our thinking beyond our sometimes limited uniformitarianistic and actualistic views. The volume attempts to explore the hows and whys of sedimentary events that exceed the present norms by as much as orders of magnitude. The papers explore a range of sedimentary processes and deposits, from the present to the past, the normal to the unusual, and the rare to the extreme. Recognition of extreme depositional systems allows us to better understand the range, scales, and variability of the geologic record and to better isolate what the most extreme conditions or controls might be. An understanding of the controls on a depositional system enables us to better define the role and magnitude of processes in an environment. The recognition of the extreme systems and understanding their controls provide insights that can be used to better model geologic systems whether for understanding geologic history or for predictions and practical applications of resource exploration.

2003 GREAT LAKES SECTION-SEPM FIELD CONFERENCE

Pennsylvanian Sharon Conglomerate, Past and Present: Sedimentology, Hydrology, Historical and Environmental Significance.

Location: Cuyahoga Falls, Ohio. **Date:** September 26-28, 2003. **Field Trip Leaders:** Annabelle Foos, University of Akron; Neil Wells, Kent State University; Jim Evans, Bowling Green State University, with contributions from Joe Hannibal, Cleveland Museum of Natural History.

Geologic Overview: The Sharon Conglomerate is the basal member of the Pennsylvanian Pottsville Formation. We will discuss the alluvial architecture and regional setting of this braided stream paleovalley complex. Classic exposures of the Sharon Conglomerate at the Gorge in Cuyahoga Falls and Ritchie Ledges in the Cuyahoga Valley National Park will be visited. Three-dimensional exposures of the Sharon at Ritchie Ledges will allow us to take a detailed look at the sedimentary structures, including spectacular recumbently overturned crossbeds and huge pebble-filled scours.

We will have a unique glimpse into the Sharon Aquifer where it has been recently dissected by downcutting of the Cuyahoga River at the Cuyahoga Falls Gorge. The chemistry of natural springs and seeps at the Gorge has yielded information about the heterogeneous flow through this unit.

Early settlers built dams and associated mills where the rivers flowed over resistant layers such as the Sharon Sandstone. We will visit two of these dams and discuss the controversy over their removal. We will also visit a dam failure site in Chagrin Falls where the village is remediating the site as a riparian wetlands.

Logistics: Additional details will be posted on the Great Lakes SEPM website as they become available <<http://www.isgs.uiuc.edu/gls-sepm/>>.

Cost: The meeting registration fee is \$40 for professionals and \$30.00 for students. Registration includes the fieldtrip guidebook, Saturday lunch and evening barbecue.

For **further information:** Annabelle Foos, University of Akron, (330) 972-7991; <afoos@uakron.edu>.

IN MEMORIAM ... MONTGOMERY'S "SAND HILL" LOCALITY

Really good outcrops in the Gulf Coastal Plain are difficult to find, and the ones we have are real treasures. For this reason, I am saddened to report the passing of one of the best inner Coastal Plain outcrops in our region, the Montgomery "Sand Hill" locality also known as "H&R Point" or "the United Parcel Site (UPS)."

This outcrop, located originally on the margins of a cap-rock protected knoll on the western side of the City of Montgomery, Alabama, was the focus of thousands of field trips over the past half century due to its rich vertebrate fauna and excellent physical and ichnologic sedimentary structures. Sand Hill was the site of many research projects and theses and was published upon in international literature by several prominent geologists including Chuck Savrda and Robert Frey. As a key outcrop in understanding the facies history of the Tombigbee Sand Member of the Eutaw Formation (Upper Cretaceous, Campanian), I relied on this locale as a cornerstone for facies correlation in this part of the section.

Mention of this site goes far back in geological literature of the area, to at least the early 1940's (work of Watson Monroe) and perhaps before that. I was told that hadrosaur bones had come from the site decades ago and know from my own experience that it had a rich vertebrate microfauna of fish, sharks, rays, turtles, etc. The strata at Sand Hill were variously interpreted as a tidal pass or offshore sand bar, and the paleocurrents taken there were key to understanding shoreline strike during Alabama's great transgression of the Late Cretaceous.

I often stood before the sand cliffs at Sand Hill and pondered deep into what marine life would have been like at the Late Cretaceous shore. Going there was like a day at the beach ... with sun, sand, and all.

I wrangled with the City of Montgomery over scientific access to the site some years ago. I was told bluntly to stay off (despite frequent trespassing by geologists and knowledgeable local citizens who like to look for fossils). The City rented from the owner and so it was the City's sand pit, I was informed. Each time I went there, I would always worry about perhaps acquiring a criminal record if a police cruiser happened by with officers having little to do. Political winds changed in Montgomery a few years ago, and with that change came permission to at last use the site for scientific and field-trip purposes. But in recent years, more and more sand was taken from Sand Hill to put on Montgomery streets during icy conditions. If only Montgomery citizens knew of the priceless treasure they have paid road crews to mindlessly shovel upon their roads!

Now the once proud outcrop is in ruins. It was once as much as 20 feet high but now is a low sand pile with none of the original structures visible. At one time, one could see and measure cross-strata over 10 feet in height and marvel over some of the most amazing ichnofossils I have ever seen.

In another country (or another part of this country), such a site would have been preserved for posterity due to its great geological importance. Unfortunately, that is not the way we view such features around here, and so it is gone.

David T. King, Jr.

Auburn University

<kingdat@auburn.edu>



The "Sand Hill" site in Montgomery, Alabama, rather near the end of its life (March 2002). Cross-strata are evident and the caprock layer is still in place. This feature is now totally destroyed. Photo by author.

Ballot for the Election of 2003-2004 Second Vice-Chair of the GSA Sedimentary Geology Division

Vote for **one** candidate for Second Vice-Chair by checking the appropriate box or by filling in the write-in space to vote for an individual not listed on this ballot. Brief biographies for both candidates are given below the ballot.

Your ballot must be postmarked by June 30, 2003, must be signed in the space provided below, and must include your GSA member number in order to be valid. You may detach the ballot sheet from the newsletter, fold it in thirds and affix first-class postage or return it in an envelope to the address on the reverse side of this ballot.

Election results will be announced at the Sedimentary Geology Division meeting at the 2003 GSA Annual Meeting in Seattle and will be posted on the SGD website at: <http://rock.geosociety.org/sed/SGD.html>

If you prefer, **you may vote online by June 30, 2003 at <<http://rock.geosociety.org/balloting/sedimentary.asp>>** using your GSA member number to access the ballot (your e-mail address will open the ballot only if it is in GSA's database.) In case you have forgotten, **your membership number is at the upper left of your address label for *GSA Today*.**

Thank you in advance for participating in the Sedimentary Geology Division election of officers.

Second Vice-Chair:

- Christopher Paola
- Bruce M. Simonson
- (or write-in) _____

Secretary-Treasurer:

- Paul K. Link
- (or write-in) _____

Christopher Paola. Educ: Lehigh Univ, BS; Univ Reading (UK), MSc; MIT/WHOI, ScD. Prof Exp: Univ Minnesota-Minneapolis (83-present), Co-Director Natl Ctr for Earth-Surface Dynamics (02-present), Assoc Dir St. Anthony Falls Lab (95-pres); USGS Cascades Volcano Observatory (88-90). Prof Affil: GSA (since 84; Fellow 98); AGU, SEPM, IAS. Rsrch Int: Fluvial sedimentology & stratigraphy; basin dynamics; stream braiding & vegetation effects. Statement of Interest: The most useful information I can provide is a summary of what my goals for the Sedimentary Geology Division would be. These are: to promote linkages and communication between sedimentary geology and allied fields, both traditional (e.g., geomorphology, paleontology) and nontraditional (e.g., engineering, geophysics, ecology, and mathematics); to promote unity among various approaches to sedimentary geology (field, laboratory, theoretical); to help foster a more cohesive sedimentary geology community; and to help communicate the excitement of sedimentary geology to other areas of the Earth sciences.

Bruce M. Simonson. Educ: Wesleyan Univ, BA; Johns Hopkins Univ, PhD. Prof Exp: Oberlin College (79-present), Geol Dept Chair and Biggs Prof of Nat Sci (current); National Geog Inst of Honduras (73-74). Prof Affil: GSA (since 72; Fellow 03); SEPM, NGWA, Geol Soc Australia, Meteoritical Society, Sigma Xi. GSA Service: Co-convenor, 2 joint GSA/GLS-SEPM symposia; contrib GSA Spec Papers #339, 370. Addtl Service: VP/Pres Oberlin chapter Sigma Xi (86-88); Secty GLS-SEPM (86-90); Sigma Xi small college interest grp comm (99-01); contrib SEPM Spec Pub #34. Honors: Geol Soc Washington Bradley Awrd (2000). Rsrch: Impact ejecta layers, early Precambrian envts, Fe- and SiO₂-rich sedts, petrography. Statement of Interest: I would like to get more deeply involved in the workings of GSA in service to my colleagues in sedimentary geology. The dramatic expansion I have witnessed in our understanding of sedimentary processes and products has contributed to advances in many fields of earth and environmental science. My goal is to help perpetuate this healthy symbiosis into the indefinite future.

Paul K. Link. Educ: Yale, BS; Univ Adelaide, BScHon; Univ California Santa Barbara, PhD. Prof Exp: Idaho State Univ, Dept of Geosciences (80-present). Affil: GSA (since 78; Fellow 96); SEPM, IAS, AAPG, Sigma Xi, Idaho Reg Prof Geol #522. GSA Service: Secty-Treas Sedimentary Geology Division (99-present); Rocky Mtn Sctn Mtg tech prog chr, field trip co-leader (99); Annl Mtg field trip co-chr, field trip leader (97); Rocky Mtn Sctn Mtg Chr (87); co-editor DNAG Precambrian vol (92); Memoir 179 lead editor (93); Spec Paper 353 lead editor (02). Rsrch: Sedimentary & regional geology of northern Rocky Mountains, Meso- and Neoproterozoic tectonics and sedimentation, detrital zircons as provenance tracers.

Your Name (printed) _____

Your Signature (required) _____

Your GSA Member Number (required) _____

This ballot must be postmarked by June 30, 2003. Fold in thirds, tape and affix first-class letter postage to reverse side.

Fold On Line and Tape Closed

Place
stamp
here

Sedimentary Geology Division
Geological Society of America
PO Box 9140
Boulder, CO 80301-9140

Ballot

Fold On Line and Tape closed

2002-2003 Sedimentary Geology Division Officers

Doug Burbank, Chair

Institute for Crustal Studies
University of California
552 University Road
Santa Barbara, CA 93106-0001
(805) 893-2586 (voice)
(805) 893-2314 (fax)
burbank@crustal.ucsb.edu

Carol B. de Wet, 1st Vice-Chair

Department of Geosciences
Franklin and Marshall College
PO Box 3003
Lancaster, PA 17064-3003
(717) 291-4388 (voice)
(717) 291-4186 (fax)
c_dewet@acad.fandm.edu

Laura J. Crossey, 2nd Vice-Chair

Dept of Earth & Planetary Sciences
University of New Mexico
141 Northrup Hall/200 Yale Blvd, NE
Albuquerque, NM 87131
(505) 277-5349 (voice)
(505) 277-8843 (fax)
lcrossey@unm.edu

Paul K. Link, Secretary-Treasurer

Department of Geology, Box 8072
Idaho State University
Pocatello, ID 83209-8072
(208) 282-3846 (voice)
(208) 282-4414 (fax)
linkpaul@isu.edu

Steven G. Driese, Past Chair

Department of Geological Sciences
University of Tennessee
306 G & G Bldg.
Knoxville, TN 37996-1410
(865) 974-6002 (voice)
(865) 974-2368(fax)
sdriese@utk.edu

Katherine A. Giles, JTPC Rep (01-03)

Department of Geological Sciences
New Mexico State University
Box 3 AB
Las Cruces, NM 88003
(509) 646-2033 (voice)
(509) 646-1056 (fax)
kgiles@nmsu.edu

Maya Elrick, JTPC Rep (01-03)

Dept of Earth & Planetary Sciences
University of New Mexico
141 Northrup Hall/200 Yale Blvd, NE
Albuquerque, NM 87131-1116
(505) 277-5077 (voice)
(505) 277-8843 (fax)
dolomite@unm.edu

Daniel Larsen, JTPC Rep (02-04)

Dept of Geological Sciences
University of Memphis
Memphis, TN
(901) 678-4358 (voice)
(901) 678-2178
dlarsen@memphis.edu

Peter W. Lipman, GSA Liaison

U.S. Geological Survey
Mail Stop 910
345 Middlefield Road
Menlo Park, CA 94025-3561
(650) 329-5295 (voice)
(650) 329-5203 (fax)
plipman@usgs.gov

John Anderson, SEPM Rep

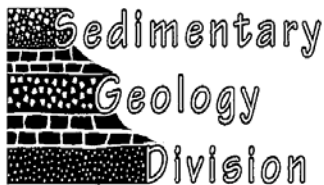
Earth Science Department
203G Keith-Weiss Geo. Lab
6100 Main
Houston, TX 77005
(713) 348-4884 (voice)
(713) 348-5214 (fax)
johna@rice.edu

Mariana L. Rhoades, Editor

St. John Fisher College
Chemistry Department
3690 East Avenue
Rochester, NY 14618-3597
(585) 385-7388 (voice)
(585) 271-7376 (fax)
mrhoades@sjfc.edu

Rebecca J. Dorsey, Webmaster

Department of Geological Sciences
1272 University of Oregon
Eugene, OR 97403-1272
(541) 346-4431 (voice)
(541) 346-4692 (fax)
rdorsey@darkwing.uoregon.edu



GEOLOGICAL SOCIETY OF AMERICA

SGD Website: <http://rock.geosociety.org/sed/SGD.html>