The SEDIMENTARY Record

Volume 6, No. 3
September 2008

A publication of SEPM Society for Sedimentary Geology
with the Sedimentary Geology Division of GSA

INSIDE: COASTAL RECOVERY FOLLOWING THE DESTRUCTIVE TSUNAMI OF 2004: ACEH, SUMATRA, INDONESIA

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SEDIMENTARY GEOLOGY DIVISION, GEOLOGICAL SOCIETY OF AMERICA

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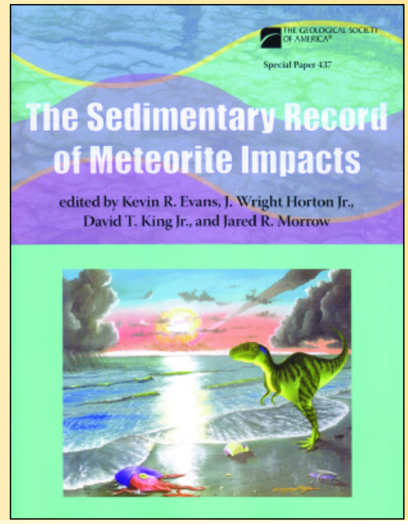
Miscellaneous #9

The Sedimentary Record of Meteorite Impacts

Edited by: Kevin R. Evans, J. Wright Horton Jr., David T. King Jr. and Jared R. Morrow



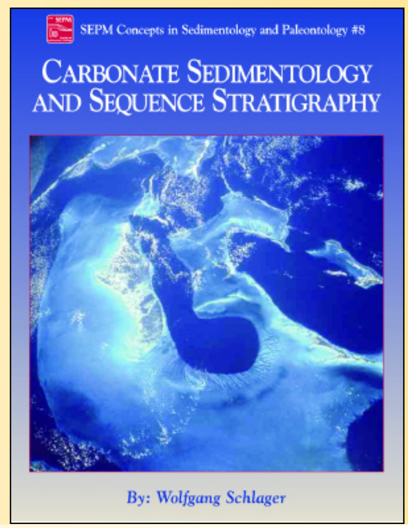
Although the remains of ancient impacts generally are found on dry land, many, including most of the examples detailed in this volume, actually occurred in marine settings. In addition to the deformation of sedimentary target rocks, the record of meteorite impacts also includes proximal to distal ejecta and tsunami deposits, both of which are typically preserved in sedimentary successions. So, despite general agreement that impactites are metamorphic rocks because they have been exposed to shock-metamorphic pressures, many impacts and their lateral correlates are sedimentary by nature. This publication explores the scope of the sedimentary record of meteorite impacts. A topical session at the 2004 GSA Annual Meeting in Denver, Colorado, November 7-10, and an SEPM Research Conference held in Springfield, Missouri, May 21-25, 2005, provided the impetus for joint publication of this volume. Published as the Geological Society of America Special Paper 437.

Catalog #55009 • SEPM Member Price: $49.00

Back by Popular Demand
Concepts in Sedimentology and Paleontology #8

Carbonate Sedimentology and Sequence Stratigraphy

Author: Wolfgang Schlager



Sedimentology and Stratigraphy are neighbors yet distinctly separate entities with the Earth Sciences. Sedimentology searches for the common traits of sedimentary rocks regardless of age as is it reconstructs environments and processes of deposition and erosion from the sediment record. Stratigraphy, by contrast, concentrates on changes with time, on measuring time and correlating coeval events. This book attempts to make progress by combining two different specialties and different lines of reasoning, and by searching for principles underlying the bewildering diversity of carbonate rocks. Originally published in 2005, CSP 8 is also available digitally on CD.

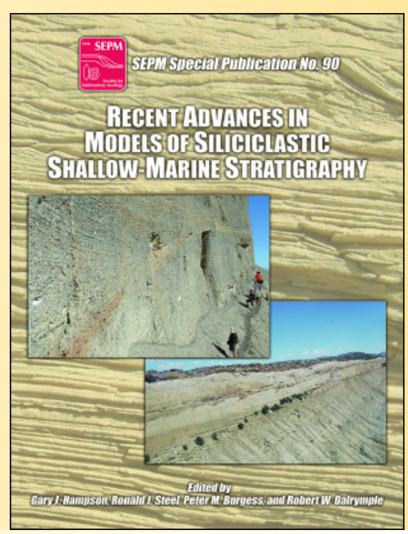
Catalog #85008 • SEPM Member Price: $55.00

Catalog #85108 (CD version) • SEPM Member Price: $40.00

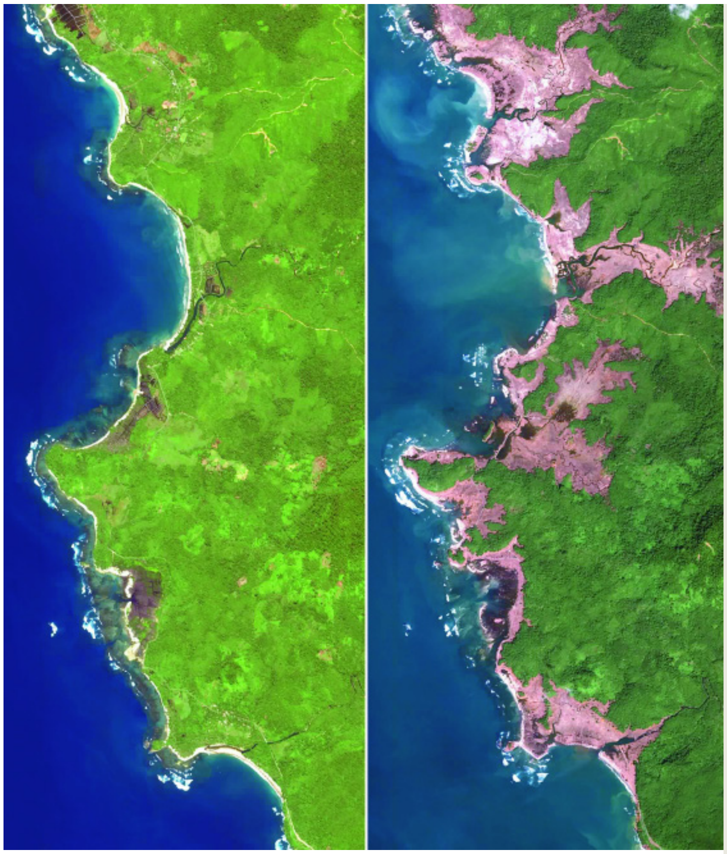
Coming Soon
Special Publication #90

Recent Advances in Models of Siliciclastic Shallow-Marine Stratigraphy

Edited by: Gary J. Hampson, Ronald J. Steel, Peter M. Burgess



Siliciclastic shallow-marine deposits record the interface between land and sea, and its response to a variety of forcing mechanisms: physical process regime, the internal dynamics of coastal and shelfal depositional systems, relative sea level, sediment flux, tectonic setting, and climate. These deposits have long been the subject of conceptual stratigraphic models that seek to explain the interplay between these various forcing mechanisms, and their preservation in the stratigraphic record. This volume arose from an SEPM research conference on shoreline-shelf stratigraphy that was held in Grand Junction, Colorado, on August 24-28, 2004. The aim of the resulting volume is to highlight the development over the last 15 years of the stratigraphic concepts and models that are used to interpret siliciclastic marginal-marine, shallow-marine, and shelf deposits.



Cover photo: IKONOS images of a headland and bay coast, Aceh, Indonesia, prior to the Dec. 26, 2004 tsunami (left panel) and three weeks afterward the event (right panel).

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The Sedimentary Record (ISSN 1543-8740) is published quarterly by the Society for Sedimentary Geology with offices at 4111 S. Darlington, Suite 100, Tulsa , OK 74135-6373, USA.

The Sedimentary Record is provided as part of membership dues to the Society for Sedimentary Geology.

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Coastal Recovery following the destructive tsunami of 2004: Aceh, Sumatra, Indonesia

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ABSTRACT

We describe the recovery of coastal landforms in Aceh, Sumatra after the hugely destructive Indian Ocean tsunami of December 26, 2004, using three sets of IKONOS images at a resolution of 1 m. The image sets were taken about two years before the tsunami, immediately following the tsunami, and about one year after the tsunami. We found a remarkably efficient recovery in progress, building new depositional forms seaward of the eroded coastline that effectively obliterate the morphological signals of the tsunami. Such detailed observations covering a long stretch of coast are now possible due to the availability of high-resolution satellite images. To the best of our knowledge this is the first time-based study of the recovery of a long stretch of coast (175 km) after catastrophic destruction by a tsunami. We suggest that tectonic coasts, like the one discussed here, may undergo similar changes periodically on a geological time-scale. Thus, it is possible that morphological evidences of catastrophic tsunamis are not necessarily preserved in the geological record.

INTRODUCTION

The role of tsunamis in large-scale coastal evolution has been previously investigated (Scheffers and Kelletat, 2003; Gehrels and Long, 2007), and unusual erosional and depositional landforms have been explained by invoking past tsunami events (Bryant and Nott, 2001; Nott, 2004; Scheffers, 2004). Often, however, sedimentary deposits are better indicators of past tsunamis and has thus received more attention. For example, the earthquake-generated submarine slump that gave rise to the Lituya Bay (Newfoundland) tsunami of 1929 left five cm of sand on top of coastal peats (Bornhard et al., 2003). Bigger tsunamis related to asteroid impacts (e.g., Eltanin, Chixulub) or submarine slumps (e.g., Storegga, Canary Islands) are expected to leave characteristic deposits over a very large area, examples of which have been identified in the field (Brookfield, M., http://atlas-conferences.com/cgi-bin/abstract/camau-08). Many of these studies of past tsunamis focus on sedimentary deposits, but here we focus on morphological changes documented by remote sensing images (Fig. 1).

The huge Indian Ocean tsunami of December 26, 2004 devastated the coast of the Aceh region in northwestern Sumatra, affecting >175 km of coast from Banda Aceh to Meulaboh (Fig. 2). The tsunami almost completely removed the suite of coastal depositional landforms that included various types of beaches, low sand dunes and swamps. However, a new coast that closely resembled the pre-tsunami version started to appear within weeks. In little more than a year the erosional effect of the tsunami was successfully masked by a new suite of depositional forms, except where the natural landscape had earlier been altered anthropogenically by sinking large-scale fish tanks (locally called *tambaks*) into the wetlands. We traced this remarkable rebuilding process using three sets of high-resolution satellite images (IKONOS) and field visits. Although the destructive effect of this tsunami on the coast and its sedimentary deposits have been described several times (Borrero, 2005; Moore et al, 2006; Paris et al., 2007), to our knowledge this is the first detailed account of post-tsunami changes towards a coastal recovery.

METHODOLOGY

This longitudinal study is based primarily on three sets of IKONOS images, each of which covers the 175 km of Aceh coast at 1 m resolution. The images are dated (a) January 10 and 13, 2003 (prior to the tsunami), (b) December 29, 2004 and January 15, 2005 (3 and 20 days after the tsunami), (c) February 1, 2006 (13 months after the tsunami). After the tsunami, we searched through the archives of the Centre for Remote Imaging, Sensing and Processing (CRISP) and found that we could compile sets of pre-tsunami and tsunami satellite scenes for the entire length of the study coast by combining images taken on two different but very close dates. It was unlikely that the coast had changed morphologically between these dates. The third set was imaged under request and so completed on the same day. Registration of the images allowed every point on a pre-tsunami image to be automatically and correctly located on the corresponding image of the other two sets. We could determine how much erosion had occurred on the coast (e.g., the corresponding point on the post-tsunami images would be in the water), and also how far the building of a new coast has advanced (Fig. 1). One of the authors of this paper (PPW) carried out extensive fieldwork on the

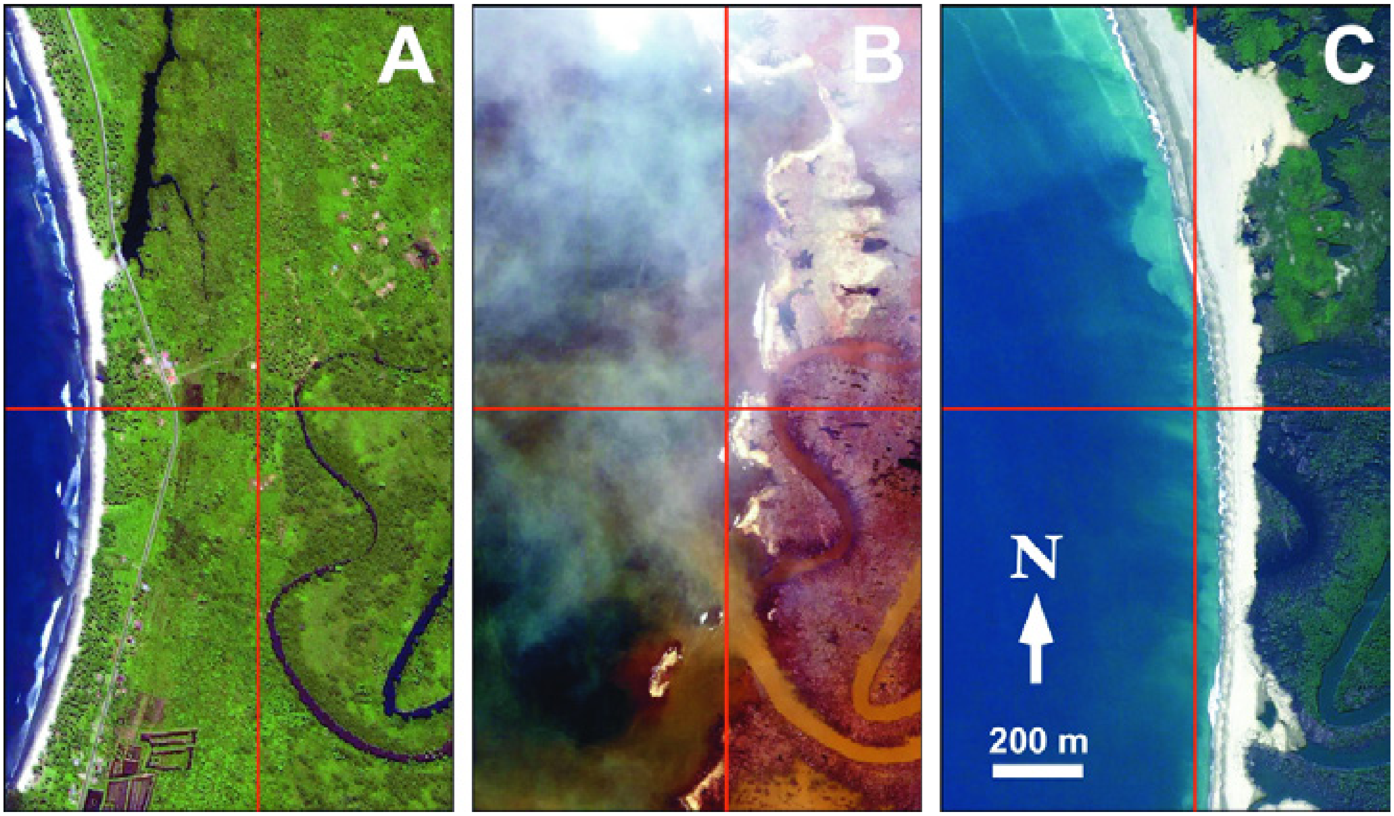

Figure 1. Erosion and rebuilding of a west-facing beach in a bay, Aceh, Sumatra. Image width is 1 km. Cross-hairs indicate the same location on all three images. A: image of the pre-tsunami coast, date January 10, 2003; B: erosion caused by the December 26, 2004 tsunami, date December 29, 2004; C: the new beach rebuilt in 13 months, date February 1, 2006. Note (a) although the rebuilt beach has not yet reached its previous location, it is already bigger in size; and (b) removal of morphological evidence of the tsunami within a time-span of about a year.

northern half of the coast repeatedly to serve as ground-truthing for the satellite images. He first conducted fieldwork in May 2005, five months after the tsunami, and subsequently in August 2006 and March 2007. His observations on ground verified the image-based conclusions reached in this study.

THE ACEH COAST

Rocky headlands partition the Aceh coast into several km long units of sandy beaches, spits and barriers that receive material from rivers, longshore drift, and offshore sources. The 175 km coastal stretch studied displays six morphologic units: headlands, bay beaches, barrier beaches backed by lagoons and swamps, swamps with *tambaks*, J-shaped (zetaform) beaches (Schwartz, 2005), and straight beaches. Fringing corals occur in the northern part of the coast where they reduce the power of wind waves striking the shoreface. Beaches here are cusped, and commonly backed by low, vegetated sand dunes. Isolated rocky outcrops and small hills emerge from below beach sand in places. Small rivers often flow sub-parallel to the coast before reaching an outlet to the sea. Prior to the tsunami the majority of small rivers were blocked by river-mouth bars, creating vegetated back-barrier swamps. In brief, bay beaches occur in the north, whereas straight beaches dominate the southern section. The only significant anthropogenic alterations of the coast include small harbors with single piers and *tambaks* (fish farms). *Tambaks* are rectangular tanks with vertical sides, constructed in the wetlands immediately back of the beach. They tend to be between 0.5 and 1 ha in area and deep enough for growth and storage of live fish on a commercial basis. These *tambaks* are large enough to interfere with the ambient flow of water and sediment. Overall the effects of the tsunami varied among the six coastal morphologic units, as did the post-tsunami building of the new coast, which are described below.

THE EARTHQUAKE AND TSUNAMI

The tsunami was generated by one of the largest earthquakes ever recorded, with a moment magnitude of 9.3 on the Richter scale. The earthquake occurred at the convergence boundary between the subducting Indo-Australian Plate and the southeastern part of the Eurasian Plate, here divided into the Burma Plate and the Sunda Plate. The highly oblique motion between the Indo-Australian Plate and the Burma and Sunda Plates had resulted in shearing off a plate sliver parallel to the subduction zone from Sumatra to Burma. This plate sliver, the Burma Microplate, had been stressed via subduction. Its rebound from this frictional resistance on December 26, 2004 started the earthquake.

The main-shock rupture began at 00:58:53 UTC or 7:58:53 local time at a depth of about 30 km at 3.3°N, 96.0°E, 50 km off the west coast of Sumatra. Northwards from the epicenter, more than 1200 km of a curved boundary was ruptured between the plates, the largest known earthquake rupture (Lay et al., 2005). Total energy released by the earthquake was 4.3 x 10^{18} J. The rupture lasted for about 10 minutes and more than 30 km^3 of sea water was displaced due to shifts of sea floor, generating the tsunami (Bilham, 2005).

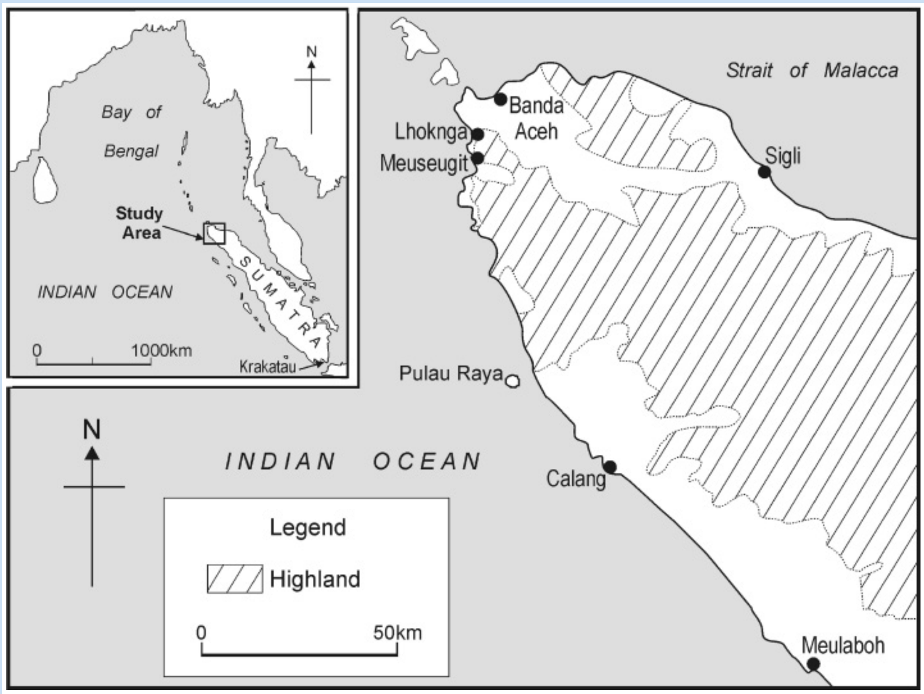

Figure 2. Location map of the part of the Aceh coast affected by the tsunami.

This was one of the largest tsunamis on record. Destructive waves reached the coast of Sumatra and southwestern Thailand between two and four hours after the earthquake, and later in other areas along the coasts of the Bay of Bengal and Indian Ocean. Waves 15-34 m high came onshore along the northernmost 100 km of the Aceh coast of Sumatra (http://walrus.wr.usgs.gov/tsunami/sumatra05/). On the north-facing coast of Aceh, beyond the promontory, such waves were lower, 10-12 m in height, but the extent of inland penetration and the scale of damage were devastatingly increased by the low elevation of the coast and post-earthquake regional subsidence that complemented the recovery of the western edge of the Burma Microplate. Three consecutive run-ups and a final backwash have been recognized from the sand deposits, with the maximum run-up identified as 60 m a.s.l. and 6 km inland. The recurrence interval of a tsunami of this magnitude has been computed as between 500-1000 years (Thio et al., 2005). It should be noted that tsunamis in the Indian Ocean are not as common as in the Pacific. Even so, destructive tsunamis affected Sumatra in 1797, 1833, 1843, 1861 and the one from Krakatau in 1883 (Waltham, 2005). Smaller unremembered tsunamis may of course have happened in the past.

Impacts of the tsunami differed among the six coastal geomorphic units mentioned above. Images and field observations revealed that the tsunami almost completely stripped the vegetation and unconsolidated sediment from the rocky subsurface, leaving only a thin deposit of brown mud and sand and eroding a number of scourpools. The deposited sand formed a discontinuous sheet up to 80 cm thick and tsunami muds were found up to 5-6 km inland. Along the coast where fringing coral reefs occur, the tsunami eroded the beach to expose beachrock and the underlying coral platform. The tsunami was ineffective in eroding hard rock but it destroyed all beaches and scoured the swamps (Fig. 3). A few tall trees survived the event. The bays were eroded back a significant distance, in places to about 500 m, but the headlands were not eroded. The geometry of the coast did not change although the distance between the headlands and bayheads thus increased after the tsunami (Fig. 4). Some sand was deposited on the coast but most of the eroded material was transported out and deposited offshore (Paris et al., 2007; http://walrus.wr.usgs.gov/tsunami/sumatra05/).

POST-TSUNAMI REBUILDING

New depositional forms started to build on this coast only a few weeks after the tsunami. As the third set of images show, such beaches reached a substantial dimension (Figs. 1 and 5) and the wetlands were partially filled with sediment and revegetated (e.g., by ipomoea) within thirteen months after the tsunami. An annual cycle of seasonal erosion and deposition was also completed on this coast during this time. Almost all of the new beaches are bigger than they were before the tsunami, especially the bay beaches and the barrier beaches in the northern part of the coast from Banda Aceh to Pulau Raya. Strikingly, the bigger rebuilt beaches still have not prograded to the same seaward position as the pre-tsunami beaches (Figs. 1 and 5). The new beaches started with a handicap, tens of meters inland of the landward limit of the old ones, as the low dunes or cliffs at the back of the old beaches had been eroded by the tsunami. The morphology of the new beach, however, reflects that of the old one in terms of geometry and presence of berms, vegetated dunes and cusps. The six geomorphic settings of the Aceh coast listed above reformed in the same locations even where the tsunami had completely destroyed them. The new curved beaches, J-shaped-bay beaches, and straight beaches reappeared in their old locations, reflecting the morphology of the pre-tsunami beaches (Fig. 4). Straight beaches, found south of Pulau Raya, do not exceed the old ones in size, unlike the bay beaches of the north. The headlands did not show much damage after the tsunami, only the weathered material and low-level vegetation at their bases were removed. Vegetation in such locations has started to return.

Sand for the development of new beaches appears to have come from the sea rather than inland. There is no evidence of any significant amount of material being transferred to the coast by rivers, and all depositional features are strongly developed near the sea while wetlands behind the beaches remain partially unfilled. Field visits also indicate that the post-tsunami movement of sand was onshore from the sea to the coast (Fig. 6). Beaches that started to rebuild only a few weeks after the tsunami have been observed to migrate landward through overwash (http://walrus.wr.usgs.gov/tsunami/sumatra05/).

THE FUTURE

Given a few more years, the barrier beaches are expected to build up sufficiently to recreate lagoons and divert water courses, vegetation to return more extensively, and the morphological signs of the tsunami to be even more effectively erased. The only evidence that is likely to remain would be the part of the coast with corals, where coarse material has piled up backshore and several boulders have been transported and left stranded on the reef flat. In the future, however, it may be difficult to attribute these definitively to a tsunami and not to large storms. The impermanence of the effect of the 1883 Krakatau tsunami on the nearby coasts of south Sumatra and west Java supports such a conclusion.

CONCLUSION

The Aceh coast was temporarily destroyed by the tsunami of 26 December 2004. The coast retreated by approximately 500 m in places, eroding almost the entire suite of depositional landforms overlying the consolidated bedrock underneath. The building of a new coast has been remarkably swift, and mimicks the older suite of depositional forms, but the coast has yet to build back to its former location. On the Aceh coast, tsunamis appear to be episodic destructive events that are followed by coastal transport processes that tend to remove or mask the evidence of such destruction. The post-tsunami coast that develops is sufficiently similar to the old coast in form that, it may not be possible after several years, to identify the occurrence of even a huge tsunami like the one discussed, without examining the subsurface.

Given the lack of a long recorded time-series, the recurrence interval of tsunamis in this area are difficult to compute. Thio et al. (2005), however, have estimated the return period of Indian Ocean tsunamis similar to the December 26, 2004 event to be 500-1000 years. We conclude that the Aceh coast may be altered drastically by large tsunamis at intervals that are relatively brief on a geological time-scale. However, a new coast may evolve swiftly afterwards and is likely to resemble the pre-tsunami coast. We cannot at present extend this conclusion to other coasts beyond Aceh but our reconnaissance studies on the Khao Lak area of the Andaman Coast of Thailand, another tsunami-eroded area that remains in a natural state, indicate that a new coast was also rebuilt there subsequent to the tsunami, masking the devastating morphological changes. We intend to pursue this topic.

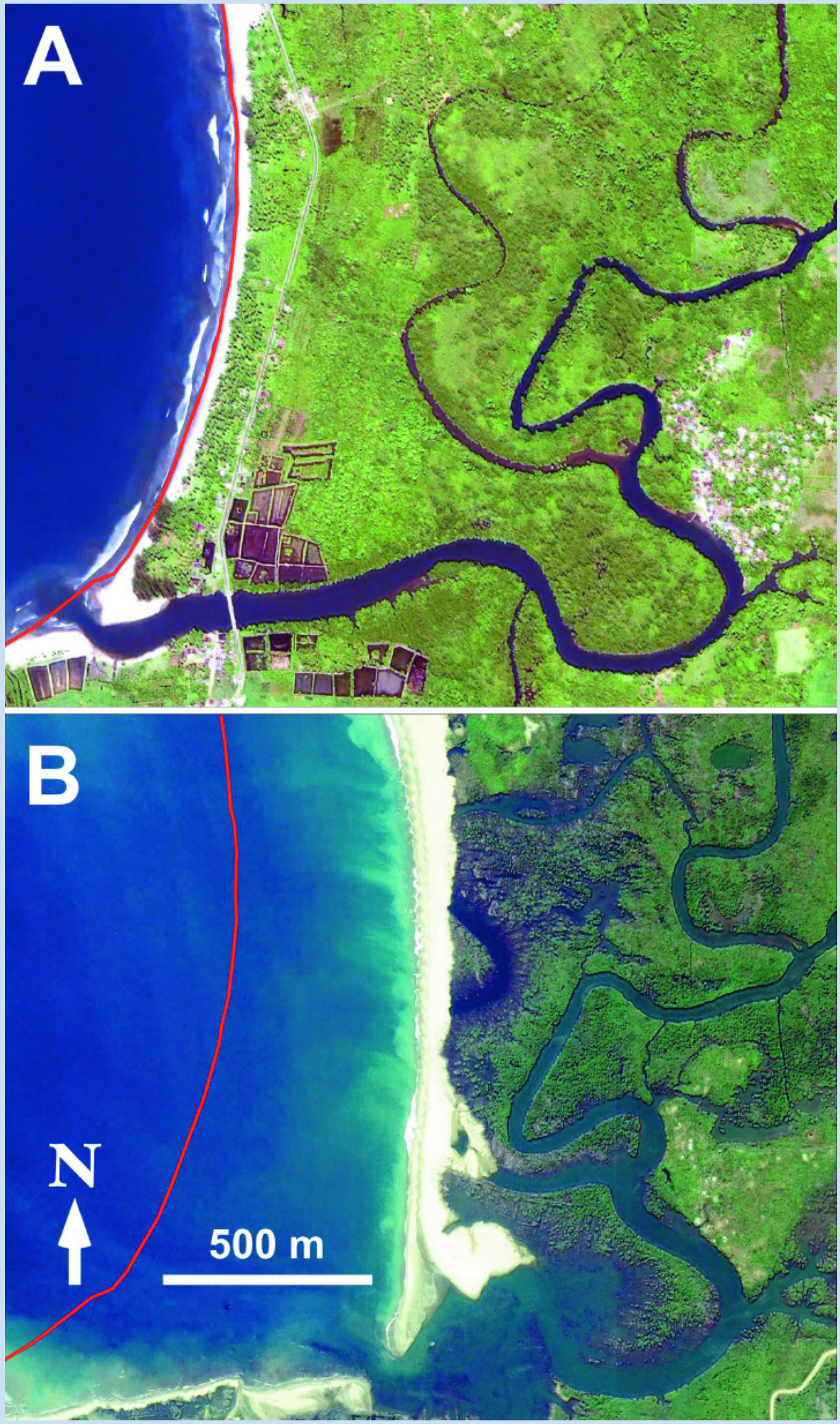

Figure 3. High-resolution comparison of a west-facing beach. A: pre-tsunami beach; B: the new west-facing beach in the same location 13 months after the tsunami. Line in red indicates location of the pre-tsunami coastline. River systems behind the old barrier beach have been disrupted by the tsunami and have still not fully adjusted to new conditions.

ACKNOWLEDGEMENTS

Albert Ang (CRISP) assisted in processing the IKONOS images. S.C. Liew and L.K. Kwoh acknowledge the support received from the Agency for Science, Technology and Research (A*STAR), Singapore. Avijit Gupta would like to thank CRISP for making it possible for him to visit the Centre and work with the satellite images. Poh Poh Wong's fieldwork was carried out with support from the Faculty Staff Support Scheme, National University of Singapore. Figures 2 and 5 were prepared by Lee Li Kheng. The IKONOS images used for this paper were received and processed at CRISP, National University of Singapore. The

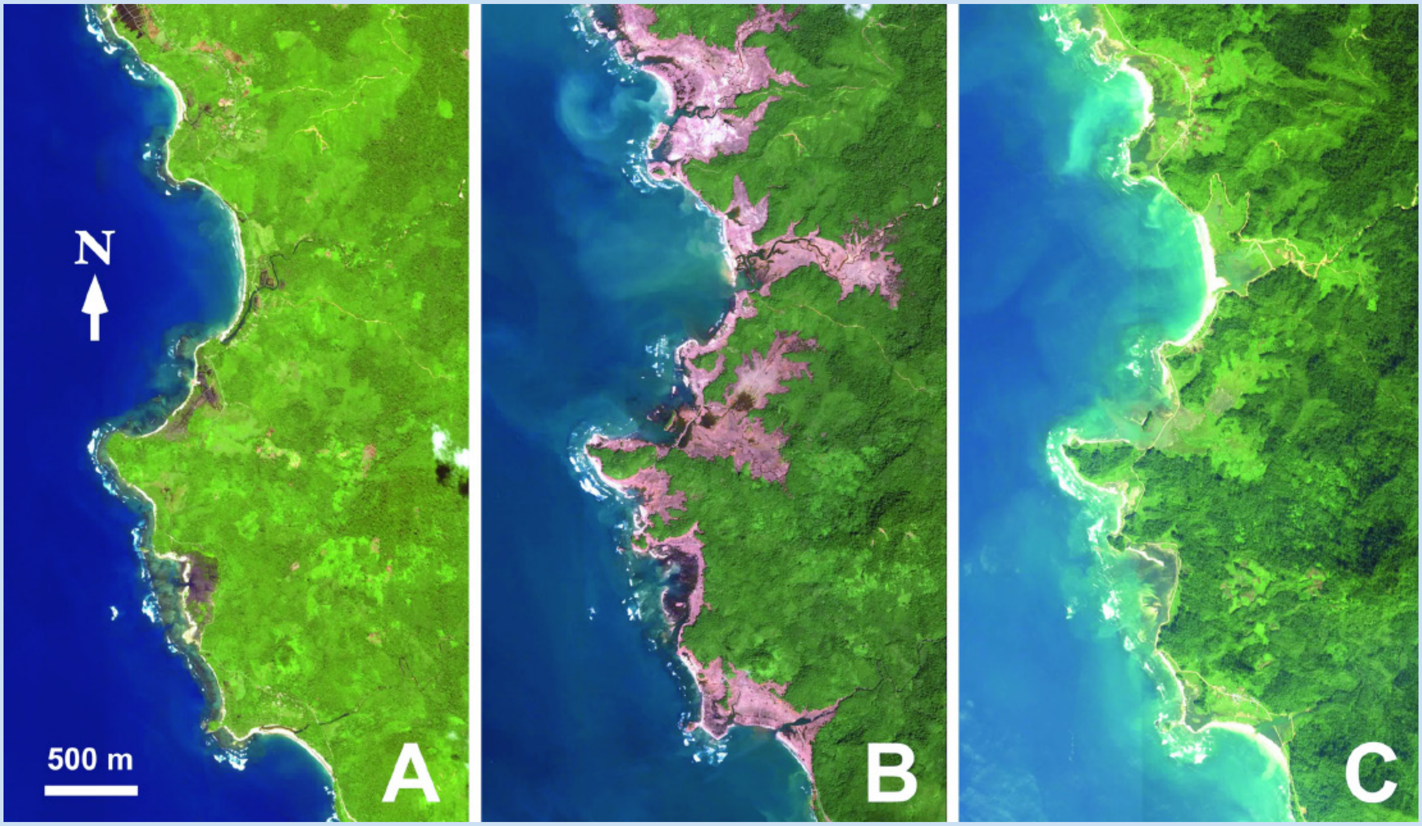

Figure 4. A: Pre-tsunami headland and bay coast, B: the same coast after destruction by the tsunami; C: new coast rebuilt after 13 months. Although local changes in morphology have occurred, it is nearly impossible to recognize the occurrence of the tsunami from the new coast's morphology alone.

REFERENCES

BILHAM, R., 2005, A flying start, then a slow slip: Science, v. 308, p.1126-1127.

BORNHOLD, B.D., FINE, I.V., RABINOVICH, A.B., THOMSON, R.E. and KULIKOV, E.A., 2003, The Grand Banks landslide generated tsunami of Nov. 18, 1929: analysis and numerical modeling: European Geophysical Society - Geophysical Research Abstracts, v. 5, p. 17-75.

BORRERO, J.C., 2005, Field data and satellite imagery tsunami effects in Banda Aceh: Science, v. 308, p. 1596.

BRYANT, E.A. and NOTT, J., 2001, Geological indicators of large tsunami in Australia: Natural Hazards, v. 24, p. 231-249.

GEHRELS, W.R. and LONG, A.J., 2007, Quaternary land-ocean interactions: sea-level change, sediments and tsunami: Marine Geology, v. 242, p. 1-4.

LAY, T., KANAMORI, H., AMMON, C.J., NETTLES, M., WARD, S.N., ASTER, R.C., BECK, S.L., BILEK, S.L., BRUDZINSKI, M.R., BUTLER, R., DESHON, H.R., EKSTRÖM, G., SATAKE, K. and SIPKIN, S., 2005, The Great Sumatra-Andaman earthquake of 26 December 2004: Science, v. 308, p. 1127-1133.

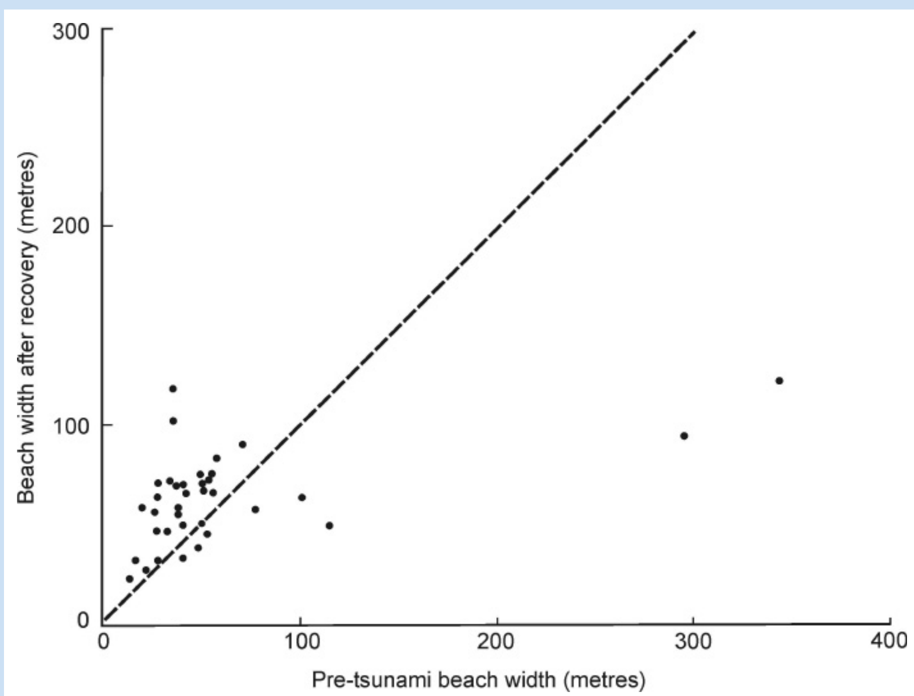

Figure 5. February 2006 width of the beaches in the northern part of the study coast plotted against width of the pre-tsunami ones. New beaches are wider than the old ones in the same locations, except where the pre-tsunami beaches were very wide. This discrepancy may disappear over time.

MOORE, A., NISHIMURA, Y., GELFENBAUM, G., KAMATAKI, T. AND TRIYONO R., 2006, Sedimentary deposits of the 26 December 2004 tsunami on the northwest coast of Aceh, Indonesia: Earth Planetary and Space Sciences, v. 58, p. 253-258.

NOTT, J., 2004, The tsunami hypothesis - comparisons of the field evidence against the effects, on the Western Australian coast, of some of the most powerful storms on Earth: Marine Geology, v. 208, p. 1-12.

PARIS, R., LAVIGNE, F., WASSMER, P. AND SARTOHADI, J., 2007, Coastal sedimentation associated with the December 26, 2004 tsunami in Lhok Nga, west Banda Aceh (Sumatra, Indonesia): Marine Geology, v. 238, p. 93-106.

SCHEFFERS, A., 2004, Tsunami imprints on the Leeward Netherlands Antilles (Aruba, Curaçao, Bonaire) and their relation to other coastal problems: Quaternary International, v. 120, p. 163-172.

SCHEFFERS, A. AND KELLETAT, D., 2003, Sedimentologic and geomorphologic tsunami imprints worldwide - a review: Earth-Science Reviews, v.63, p. 83-92.

SCHWARTZ, M.L. (Editor), 2005, Encyclopaedia of Coastal Science. Springer, Dordrecht.

THIO H.K., ICHINOSE, G. AND SOMERVILLE, P., 2005, Probabilistic tsunami hazard analysis: Risk Frontier, v. 5 (1), p. 1-4.

WALTHAM, T., 2005, The Asian tsunami disaster, December 2004: Geology Today, v. 21(1), p. 22-26.

Accepted August 2008

Figure 6. New post-tsunami beach south of Kr. Ritieng, in May 2005, five months after the tsunami. Photograph: P.P. Wong

2009 SEPM Honorary Member William Morgan

The Honorary Membership to SEPM, which acknowledges excellence in professional achievements and extraordinary service to the Society will be presented to William Morgan. The award will be presented at the SEPM Awards Ceremony, June 9, 2009, in Denver, Colorado.

To nominate a worthy colleague for SEPM awards go to http://www.sepm.org/awards/nominationform.htm more information about each of SEPM awards can be found at http://www.sepm.org/awards/awardcriteria.htm

ANNOUNCEMENT

AGI has produced a "transition" document for the new federal administration being elected this fall. The document entitled "Critical Needs for the Twenty First Century: The role of the Geosciences" was compiled with input from the leadership of the AGI member societies, including SEPM. The document will be distributed to decision makers in federal government and is available on the AGI website http://www.agiweb.org/gap/trans08.html for anyone to use to help state, local government and the public to better understand the impact geoscience and geoscientists can have.

PRESIDENT'S COMMENTS

The value of JSR, PALAIOS, SEPM Special Publications and The Sedimentary Record - one perspective

As many of you know, I am employed in the energy resource industry and, thus my dialogue on sedimentology originates from that perspective. I do this to provide a different view on the contribution of sedimentology to the industry and the importance of our Society (SEPM).

In early February, while working with nine staff members from one of our divisions, I made an interesting discovery that I would like to share with you. As is the norm these days, our staff are keen and bright but generally young, with less than 5 years of experience. I was working with them to provide a sedimentological interpretation and predictive exploration model for the clastic Cretaceous Viking Formation in one part of Alberta. The Viking Formation is a well-explored, major producer of gas and oil, but, with innovative geology, still has room for potential exploration.

The geological teams had mapped the thickness of the underlying marine shale unit in order to define a valley system with tributaries. Within the lowermost potential reservoir unit of the Viking Formation was an eight meter thick bioturbated sandstone with double mud drapes and thicker sandstone and mudstone alternations having a restricted ichnofossil assemblage. This was an easy interpretation of estuarine incised valley fill, a facies found elsewhere in the Viking Formation. The overlying facies showed evidence of deepening, but still *within the mapped valley system*. Characteristic elements of the overlying sediments included hummocky cross stratified sandstones, glauconite, wave ripples and the trace fossil *Terebelina*. The evidence for this upper unit, all pointed towards a shallow shelf or embayment, however I could not come up with a suitable modern analog for the glauconite and shallow-marine facies within this mapped valley system.

The next day, I received my December issue of SEPM's *Sedimentary Record* (it takes a bit of time for the paper copy of scientific journals to be distributed). The cover showed pictures from the Outer Banks of North Carolina to highlight the paper by Stephen Culver and co-authors entitled "Late Holocene barrier island collapse: Outer Banks, North Carolina, USA". The authors describe a Holocene-aged detailed core and foraminiferal paleoecological study of the Outer Banks. Their conclusions showed that the collapse of the barrier island system at Cape Hatteras fronting Pamlico Sound had occurred at least twice in the last 7300 years. As a result of the barrier island destruction, the incised valley deposits were inundated with shallow marine shelf deposits. The focus of the article had little to do with the resource industry. Rather, the authors were predicting that a potential ecological and societal disaster could occur along the Carolina coastline as a result of a large hurricane, a series of smaller storms, or a even a tsunami.

However, for me, the paper provided a superb analog for a Cretaceous hydrocarbon play in a mature basin. I created a powerpoint presentation from the data and images within the article integrated with Viking data. We had an analog and an explanation.

This is but one example of how I have used the publications of SEPM to assist me and staff colleagues to complete our jobs. This example shows some of the tremendous value of SEPM and its publications to various aspects of geology and society. My experience is not unique.

I have also seen the contribution of sedimentology in attempting to unravel the complexity of the Athabasca Oil Sands, the second largest hydrocarbon accumulation on earth. This oil sand deposit is undergoing many tens of billions of dollars of ongoing investment. Development of the resource requires new and cutting edge engineering technology that depends to a large degree on understanding this geologically complex reservoir. The oil industry depends on countless specialists, many of them sedimentologists and paleontologists. Again, it has been my experience that much of the detailed understanding of these incised valley reservoirs is based on primary research found in SEPM journals and special publications.

I cannot provide enough kudos to the scientific contributors, Editors, Associate Editors, Journal staff and referees of SEPM's journals - *Journal of Sedimentary Research* and *PALAIOS*, the Special Publications and *The Sedimentary Record*. It is these publications that help define our Society and clearly shows our importance to the resources industries and society.

Dale Leckie, President

WORKSHOP SUMMARY

NSF Workshop: Community Sedimentary Model for Carbonate Systems
Convened at: Colorado School of Mines, Golden, CO
Hosted by: CSDMS Integration Facility
February 27-29, 2008

Conveners:
Rick Sarg, Colorado School of Mines, jsarg@mines.edu
Evan Franseen, KGS & Univ. of Kansas, evanf@kgs.ku.edu
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Developing predictive models of carbonate systems has important implications for monitoring and managing global climate change affecting societies around the world. Carbonate sediments and rocks form an important part of the global carbon cycle. More than 80% of Earth's carbon is locked up in carbonate rocks. Almost all of the remainder is in the form of organic carbon in sediments. About 0.05% of Earth's carbon is present in the ocean in the form of the carbonate and bicarbonate ions and dissolved organic compounds, whereas 0.0008% is tied up in living organisms, and about 0.002% is in the form of CO_2 in the atmosphere. Carbonate rock is the primary ultimate sink for CO_2 introduced into the atmosphere.

In response to this importance of carbonate rocks, an NSF-sponsored workshop on carbonate systems and numerical systems modeling was held in late February, 2008, at the Colorado School of Mines. The purposes of the workshop were to identify grand challenges for fundamental research on ancient and recent carbonate systems, and to identify promising areas for advancing the next generation of numerical process models to enhance our ability to meaningfully and accurately model carbonate systems. Thirty-one attendees from academia and industry worked to initiate a carbonate community across a broad spectrum of disciplines, including sedimentology, stratigraphy, geobiology, oceanography, paleoclimatology, numerical process modeling, and carbonate diagenesis. Although attended by a small subset of the greater potential community, this workshop served to open dialog, and began to define the necessary inputs to improved modeling of carbonate systems. The results of this first carbonate systems workshop are posted on the SEPM Future of Sedimentary Geology web page, and on the Community Surface Dynamics Modeling System (CSDMS) website (http://csdms.colorado.edu/meetings/carbonates_2008.html). Workshop participants, through a series of presentations, break-out groups, and open dialog, evaluated recent findings and research directions on the influences of climate, ocean systems, ecology, and diagenesis on carbonate deposits, and then began to identify the "grand challenges" (e.g., modeling large facies heterogeneities; numerical simulation of diagenetic history) to the understanding and modeling of ancient and recent carbonate systems.

Through these efforts, participants recommended forming working groups to synthesize the current knowledge and research needs within each of five broad areas of carbonate research - physical processes, biological processes, diagenesis, analytical tools for studying carbonate systems, and modeling. Modeling in this context, includes all types of numerical models, such as dynamic process-based models, stochastic, and fuzzy-logic models. Although the emphasis was on addressing the needs for enhanced models, participants emphasized the need for robust data to be applied to modeling inputs (e.g., carbonate biological and physio-chemical production rates). These working group syntheses could entail collaboration between the carbonate sedimentary and modeling communities to identify gaps in documentation of parameters and/or development of algorithms.

Participants agreed that a more coordinated research effort in carbonates would be beneficial to advancing understanding, with the ultimate goal of advancing a set of quantitative predictive models for carbonate deposition and diagenesis. As a start to achieving some of the broad research objectives, workshop participants recommended interdisciplinary efforts focus on identifying a limited number of sites to conduct integrated research in selected key subsets of: (1) the modern and Pleistocene systems, to examine in quantitative and predictive detail, the effects of ocean conditions and climate change on carbonate accumulations, and the evolution of sediments into beds and strata; and (2) important analog field areas that combine outcrop, behind outcrop, and the subsurface, to build a new generation of 3-D carbonate analogs to test the validity of numerical models. A companion effort will be needed to build an archive system to capture and share data. From this standpoint, the CSDMS Integration Facility is in an ideal position to facilitate the development, and hosting of such an archive system.

Importantly, the workshop also attempted to identify promising areas for advancing the next generation of numerical models, to enhance our ability to meaningfully and accurately model carbonate systems, including both depositional processes and diagenesis. An important result of the workshop was the recognition of the need to integrate carbonate modeling efforts into other Earth-surface modeling efforts such as the Community Surface Dynamics Modeling System. The workshop resulted in the development of a plan for creation of a work-bench platform for carbonate knowledge generation via a suite of integrative modules that is available to the carbonate community. As a result of the participants' efforts, this workshop has served to open the dialog, and to begin to define the necessary inputs to the modeling of carbonate systems from sedimentation through burial.

This workshop also aimed to establish a framework for future workshops to engage an expanded community interested in carbonate systems, and that can better define research goals and objectives. As part of this goal, a carbonate working group has been initiated within CSDMS, providing a hub and framework to facilitate future workshops.

Sedimentary Geology Division

GEOLOGICAL SOCIETY OF AMERICA

Greetings SEPM and GSA Sedimentary Geology Division Members!

I hope this newsletter finds you all having a productive and pleasant summer! In this issue of the SGD Newsletter, I want to highlight events sponsored by SEPM and SGD at the GSA Annual Meeting in Houston and present other news and information pertinent to the sedimentary geology community.

2008 GSA Annual Meeting

The 2008 Joint Meeting of the Geological Society of America, American Society of Agronomy, Crop Science Society of America, Soil Science Society of America, and Gulf Coast Association of Geological Societies, with the Gulf Coast Section of SEPM, hosted by the Houston Geological Society presents a great opportunity for sedimentary geologists to meet in Houston and interface with the soil science and Gulf Coast geological communities. Many joint sessions are scheduled that address the ten overarching themes of the meeting, which cross disciplinary boundaries and address global problems. I encourage all of you to take advantage of the unique opportunities presented at this meeting to learn about current issues in our allied sciences and societies and to consider how our combined efforts may better address the greater questions and problems that we face. Several of the joint plenary sessions are clearly of interest to sedimentary geologists:

SUNDAY, OCTOBER 5
Climate Change through Time: Evidence in the Geologic Record
10:00 am - 12:00 Noon

MONDAY, OCTOBER 6
Energy and the Global Market
8:00 - 10:00 am
Globalization of Biogeochemical Cycles
1:30 - 3:30 pm

TUESDAY, OCTOBER 7
Reducing Vulnerability of Gulf Coast Communities to Hurricane Impacts and Sea-Level Rise: Are Large Scale Restoration and Engineering the Answer?
1:30 - 5:30 pm

WEDNESDAY, OCTOBER 8
Geobiology and Biomineralization: From the Origins of Life to the Origins of Cities
8:00 - 10:00 am

THURSDAY, OCTOBER 9
Human Influences on the Stratigraphic Record
8:00-10:00 am

The GSA Sedimentary Geology Division and/or SEPM are sponsoring or co-sponsoring two Pardee and twenty-five topical sessions. In addition, SGD and/or SEPM are sponsoring three field trips. Because of the joint meeting, the number of topical sessions of interest to sedimentary geologists, sponsored by GSA as well as the allied societies, is greater than ever before.

Pardee Sessions:

SUNDAY, OCTOBER 5
P5. Perspectives on an Emerging Workforce Crisis in Geology: Assessing a Looming Irony *(All GSA Divisions)*
8:00 am

MONDAY, OCTOBER 6

P2. Critical Zone Studies of Soils and Weathering: Implications for Interpreting Climate and Landscapes of the Past *(GSA Sedimentary Geology Division; S05 Pedology; GSA Quaternary Geology and Geomorphology Division; Society for Sedimentary Geology (SEPM))*
1:30 pm

Topical Sessions:

SUNDAY, OCTOBER 5
T32. Mixed Siliciclastic-Carbonate Systems: Mixing through Time and Space *(GSA Sedimentary Geology Division; Society for Sedimentary Geology (SEPM); Gulf Coast Association of Geological Societies)*
T87. Magnetism of Sedimentary Rocks and Sediments *(GSA Geophysics Division; GSA Sedimentary Geology Division, GSA Limnogeology Division, GSA Structural Geology and Tectonics Division; Gulf Coast Association of Geological Societies)*
T31. The Future of Sedimentary Geology: Student Research (Posters) *(Society for Sedimentary Geology (SEPM); Gulf Coast Association of Geological Societies)*
T33. Mesozoic Sedimentary Basins as Archives of Mexican Magmatic History and Paleogeography *(GSA Sedimentary Geology Division; Gulf Coast Association of Geological Societies)*

MONDAY, OCTOBER 6
T78. From the Forearc to the Foreland: Contrasting Tectonics, Paleogeography, and Paleoenvironments of the North American Cretaceous *(GSA Geophysics Division; GSA Structural Geology and Tectonics Division; GSA Sedimentary Geology Division; Society for Sedimentary Geology (SEPM); Gulf Coast Association of Geological Societies)*
T36. The Astronomically Forced Sedimentary Record: From Geologic Time Scales to Lunar-Tidal History (Posters) *(GSA Sedimentary Geology Division; Gulf Coast Association of Geological Societies)*
T8. Late Quaternary of the Northern Gulf of Mexico Margin: Climate Change, Sea-Level Change, and the Depositional Record *(GSA Quaternary Geology and Geomorphology Division; GSA Sedimentary Geology Division)*

T9. Crises on the Reefs? Anticipating the Effects of Global Warming on Reefs by Reference to the Fossil Record-Is the Past Really the Key to the Present in the New Field of Conservation Paleobiology? *(Paleontological Society; Society for Sedimentary Geology (SEPM); Paleontologic Research Institute; Cushman Foundation; Gulf Coast Association of Geological Societies)*
T21. Lakes, Playas, and Soils (GSA Limnogeology Division; GSA Quaternary Geology and Geomorphology Division; GSA Sedimentary Geology Division)
T36. The Astronomically Forced Sedimentary Record: From Geologic Time Scales to Lunar-Tidal History *(GSA Sedimentary Geology Division; Gulf Coast Association of Geological Societies)*
T171. The Gulf of Mexico as a Geologic Laboratory: Making New Links in Depositional Systems from the Coastal Plain to Deep Water *(GSA Sedimentary Geology Division; Gulf Coast Association of Geological Societies)*

TUESDAY, OCTOBER 7

T7. The Mississippi River Delta as a Natural Laboratory for Evaluating Coastal Response to Relative Sea-Level Rise and Innovations in Transgressive Coastal Management: Shea Penland Memorial Session *(U.S. Geological Survey; Louisiana Department of Natural Resources; Pontchartrain Institute for Environmental Sciences; New Orleans Geological Society; GSA Sedimentary Geology Division; Gulf Coast Association of Geological Societies)*
T30. River-Dominated Continental Margin Processes: Modern and Ancient *(GSA Sedimentary Geology Division; Gulf Coast Section SEPM, GSA Quaternary Geology and Geomorphology Division; Gulf Coast Association of Geological Societies)*
T79. The Himalayan Orogen and Rise of the Tibetan Plateau: An Earth Systems Approach to the Tectonic and Landscape Evolution of Asia *(GSA International Division; GSA Quaternary Geology and Geomorphology Division; GSA Sedimentary Geology Division; GSA Structural Geology and Tectonics Division; GSA History of Geology Division; GSA Geophysics Division; Gulf Coast Association of Geological Societies)*
T37. The Western Interior Seaway (Posters) *(Paleontological Society; GSA Sedimentary Geology Division; Gulf Coast Association of Geological Societies)*
T97. Terrestrial Impact Structures: Origin, Structure, and Evolution (Posters) *(GSA Planetary Geology Division; International Continental Scientific Drilling Program (ICDP); GSA Sedimentary Geology Division; GSA Structural Geology and Tectonics Division; GSA Geophysics Division; Gulf Coast Association of Geological Societies)*
GC2. Applied Micropaleontology: Tools and Techniques for the 21st Century *(Cushman Foundation for Foraminiferal Research; Paleontological Society; Gulf Coast Association of Geological Societies; Society for Sedimentary Geology (SEPM); Paleontological Research Institute)*
T97. Terrestrial Impact Structures: Origin, Structure, and Evolution *(GSA Planetary Geology Division; International Continental Scientific Drilling Program (ICDP); GSA Sedimentary Geology Division; GSA Structural Geology and Tectonics Division; GSA Geophysics Division; Gulf Coast Association of Geological Societies)*
T133. Microbialites: A 3.5-Billion-Year Record of Microbe-Sediment Interactions *(GSA Geobiology and Geomicrobiology Division; GSA Sedimentary Geology Division; Gulf Coast Association of Geological Societies)*
T170. From San Salvador and Beyond: A Tribute to Don and Kathy Gerace and the Development of the Gerace Research Centre *(Paleontological Society; GSA Sedimentary Geology Division; GSA Hydrogeology Division; Gulf Coast Association of Geological Societies)*

WEDNESDAY, OCTOBER 8

T48. Exploring the Role of Endobenthic Organisms in Enhancing Porosity and Permeability of Sedimentary Aquifers and Reservoirs *(Paleontological Society; National Ground Water Association; GSA Sedimentary Geology Division; Gulf Coast Association of Geological Societies)*
T68. Brittle Deformation and Diagenesis as Coupled Processes *(GSA Structural Geology and Tectonics Division; GSA Geophysics Division; GSA Sedimentary Geology Division; Gulf Coast Association of Geological Societies)*
T7. The Mississippi River Delta as a Natural Laboratory for Evaluating Coastal Response to Relative Sea-Level Rise and Innovations in Transgressive Coastal Management (Posters): Shea Penland Memorial Session *(U.S. Geological Survey; Louisiana Department of Natural Resources; Pontchartrain Institute for Environmental Sciences; New Orleans Geological Society; GSA Sedimentary Geology Division; Gulf Coast Association of Geological Societies)*

THURSDAY, OCTOBER 9

T28. Permian and Triassic Terrestrial Biotic Responses to Global Perturbations *(GSA Sedimentary Geology Division; The Paleontological Society; Society for Sedimentary Geology (SEPM); Gulf Coast Association of Geological Societies)*
T43. Field and Quantitative Paleontology, Micropaleontology, and Taxonomy: A Memorial to Roger L. Kaesler *(Paleontological Society; Society for Sedimentary Geology (SEPM); Gulf Coast Association of Geological Societies)*

Field Trips:

402. Platform-Basin Transition and Sequence Stratigraphy of the Permian Rocks, Guadalupe Mountains, west Texas, and southeastern New Mexico

Wed.-Sat., 1-4 Oct.

Michael C. Pope, Washington State University, Pullman, Wash., +1-509-335-5989; James R. Markello, ExxonMobil Upstream Research Co., Houston, Tex.

The Guadalupe Mountains of west Texas and southern New Mexico provide one of the best 3-D exposures of a carbonate platform-basin transition anywhere in the world. These Late Permian rocks are well-exposed along both depositional dip and depositional strike, and their commonly horizontal orientation provides a truly exceptional setting for studying carbonate sedimentology and sequence stratigraphy. Over the past five decades, these rocks have been studied to develop, test, and refine sedimentological and stratigraphic models. The proposed field trip will focus on teaching undergraduate and graduate students how to apply advanced sequence stratigraphic analysis to understand this carbonate depositional system. A number of office and field examples will be used to construct the sequence stratigraphic framework necessary to understand the development of this carbonate platform. This trip should be of wide interest to students studying sedimentology, stratigraphy, oceanography, and paleontology.

404. Fluvial Systems of East-Central Texas: Responses to Climate and Sea-Level Change over the Past Two Glacial-Interglacial Cycles
Thurs.-Sat., 2-4 Oct.

Mike Blum, Louisiana State University, Baton Rouge, La., +1-225-578-5735.

This field trip will examine the Trinity and Colorado River systems of the Texas Coastal Plains and their responses to climate and sea-level change over the past two glacial-interglacial cycles (past 200,000 yr). The overall field-trip goals are to illustrate typical fluvial responses to climate and sea-level change for a passive margin setting, the complexity of resultant alluvial architecture, and key stratigraphic features, including paleosols. All three days will feature boat trips on the rivers to examine exposures along cut banks and/or collect and examine vibracores. Days 1 and 2 will focus on the Trinity incised valley system, a classic wave-dominated estuarine depositional system with a deeply incised alluvial valley, a bayhead delta, a large central basin estuary, and a barrier island complex that separates the estuary from the Gulf of Mexico. Day 1 will examine modern depositional environments and late Pleistocene to Holocene deposits of the lower Trinity River, including fluvial deposits from the last glacial period falling stage, as well as deposits from the Holocene period of transgression and highstand. On Day 2, participants will travel by boat to the Trinity bayhead delta, then by land to the Bolivar-Galveston barrier system. Day 3 will focus on the lower Colorado River and the architecture of incised valley fills of the previous late Pleistocene glacial-interglacial cycle (isotope stages 6 and 5). The trip will begin and end at the convention center in Houston, and will include two nights lodging in hotels enroute.

408. Examination of a Vertisol Climosequence across the Texas Coast Prairie and its Implications for Interpreting Vertic Paleosols in the Geologic Record
Fri.-Sat., 3-4 Oct.

Lee C. Nordt, Baylor University, Waco, Tex., +1-254-710-2195; Steven G. Driese, Baylor University, Waco, Tex.; Jonathan Wedenfield, USDA-NRCS, Rosenberg, Tex.

This trip showcases an examination of climate controls on soil development for soils comprising a climosequence in which all soil-forming factors, except climate, are held constant. Soils are examined in a series of soil pits excavated across the Coast Prairie region of Texas, which formed on Beaumont Formation (ca. 30-40 ka) alluvium. Soil environments range from 850-1250 mm/yr mean annual precipitation, and the soils are exclusively Vertisols characterized by pedogenic slickensides, angular blocky to wedge-shaped peds, soil fractures, gilgai micro-relief, Fe-Mn concretions, and both hard and soft masses of pedogenic carbonate. These soil features are translatable toward interpreting similar types of paleosols, which are abundant in the geological record. Soil series to be examined include Lake Charles, Laewest, and Victoria.

2008 GSA Seds and Suds Icebreaker and Forum Topic: Data and model results: Opposing views of the same problem?

Sponsored by: nexen

The third annual "Seds and Suds" event will be on Saturday evening, October 4, and will be sponsored jointly by GSA-SGD and SEPM. Refreshments will be provided through the generous, and much-appreciated, sponsorship of NEXEN, Inc. The subject of the forum this year will be "Data and model results: Opposing views of the same problem?" The discussion will be led by several panel members to be announced at a later date. The crux of the issue relates to comparison of data-driven and model-driven approaches to understanding sedimentary processes. Issues of temporal and spatial scales as well as model limitations will be highlighted. Please plan to join us for what portends to be a lively and informative discussion.

The call is open for suggestions for future discussion topics at Seds and Suds. If you have a topic you feel fits this bill, please contact John Holbrook at holbrook@uta.edu. We also welcome sponsors for the SGD and Limnogeology Divisions Joint Business Meeting and Awards Reception (see below) at GSA in Houston.

Awards

We will again have a GSA Sedimentary Geology and Limnogeology divisions Joint Business Meeting and Awards Reception, sponsored by SEPM, on Monday evening, October 6. This year's Laurence L. Sloss award winner is *Peter DeCelles*, who has made numerous contributions to tectonic sedimentology and structural geology through his studies of active and ancient mountain belts and their adjacent sedimentary basins. The SGD student research award winner this year is *Geoff Gilleaudeau*, University of Tennessee-Knoxville, for his proposed study of unusual breccias in the Mesoproterozoic Atar Group, Mauritania, and their potential relationship to tsunami associated with an extraterrestrial impact. We will also give several student poster awards, student travel awards, and a variety of door prizes for students - again, it pays to be a student in our division!

The time also seems right to take steps toward initiating a new award in the division, perhaps one directed toward bright new stars in the sedimentary geology research community. I will have more information on this at the meeting, but hope you will come to the business meeting with ideas regarding naming of the award, establishing an endowment, and funding an endowment.

Do you know a colleague who is particularly deserving of receiving the Laurence L. Sloss Award for Sedimentary Geology? Please forward nominations to the SGD Secretary/Treasurer, Paul Link at linkpaul@isu.edu.

Funding Sources

A note from Dean Dunn, ACS PRF…

The ACS Petroleum Research Fund (PRF) has long supported fundamental research in sedimentary geology, especially as applied to the petroleum field. ACS PRF receives 200-260 geoscience proposals per year, resulting in a grant budget of $2.6-3.9 million per year for research in geochemistry and geology. Beginning in 2008, some changes have been made in the ACS PRF grant programs, to eliminate "continuation research" proposals, and to modify the review procedures for submitted proposals.

Previously, PRF proposal types were a confusing mix of letter designators deriving from formerly consolidated and/or discontinued grant programs. These programs no longer exist and have been replaced by grants having more logical names: New Directions (ND), Doctoral New Investigator (DNI), Undergraduate Research (UR), and Undergraduate Faculty New Investigator (UNI).

The ND and DNI grant programs are for faculty at departments which offer the doctoral degree. These proposals receive external peer review before being considered by the PRF Advisory Board, which meets in late September, early February, and late May. The intent of the ND grants is to stimulate *new* research projects by established faculty, enabling an investigator to pursue a research direction that has not been previously funded or published in a refereed journal. ND grants are intended to lead to subsequent proposals to other agencies which offer continuation research funding. DNI grants are "starter grants" to scientists or engineers within the first three years of their first academic appointment. These grants should enable new PIs at doctoral degree-granting departments to establish an original research direction, which may then be supported by other agencies offering continuation funding for research. "Original research" is defined as being different from that previously performed by the PI as part of their graduate or postdoctoral studies.

The UR and UNI grants are limited to faculty in departments which do not offer the doctoral degree. UR grants support student-oriented research involving undergraduates, in academic departments which do not award the doctoral degree. Master's degree students may be supported on UR grants, if the M.S. is the highest degree awarded by the department of the Principal Investigator, and if undergraduates are also involved in the research program. UNI grants are "starter grants," similar to the DNI grants discussed above, but UNI proposals are limited to new investigators at departments which do not offer the doctoral degree.

For 2008, there are two Requests For Proposals per year for Type UR and UNI grants, with these proposals evaluated by expert panel panels meeting in mid-January and mid-June. Our hope is to receive the same total number of UR and UNI proposals per year as the prior Types B and GB grants, and to improve the review process. For example, in previous PRF Advisory Board meetings, some committees were asked to fund "30 percent" of only two submitted proposals. Our hope is that dividing the yearly total proposal submissions between two panels will lead to better evaluation of these proposals, as the review panels will have more proposals to evaluate at any panel meeting.

Proposals to ACS PRF must be fundamental and not "applied research." The PRF Website (http://www.acsprf.org) has a listing of areas deemed by the PRF Advisory Board to be applied research. All applicants for ACS PRF funding must also provide a 100-word statement of the "petroleum-relevance" of their research as part of the electronic submission process for research proposals. For New Directions proposals, the Principal Investigator must also include a one-page description of their current research and how this proposal is a "new and innovative area" of research for the PI, as part of their proposal.

For questions concerning the relevance of research topics to the ACS PRF guidelines, or any other inquiry about geoscience proposals, contact the Program Manager for geology and geochemistry, Dr. Dean A. Dunn, by email d_dunn@acs.org or telephone (202-872-4083).

SGD Personnel and Committee Assignments for the 2007-2008 Year

- Daniel Larsen is the Chair.
- John Holbrook is the Vice-Chair.
- Paul Link is the Secretary/Treasurer.
- The Joint Technical Program Committee (JTPC) representatives for SGD are Troy Rasbury, Mike Pope, and Julie Bartley.
- Kelly Dilliard is the web manager.
- The Sloss Award Committee comprises: Mike Arthur, Gerald Friedman, Bob Garrison (chair), Tom Hickson, Teresa Jordan, and Brad Sageman.

We wish to welcome Kelly Dilliard as our new webmaster for the Sedimentary Geology Division. Kelly brings to the SGD many years of web page experience and on-line course development. She is currently developing a new look and functionality to the SGD web site. If you have any suggestions for her regarding information that the SGD web site should contain or useful links for the sedimentary geology community, please contact her at kedilli1@wsc.edu.

As the SGD has changed to a two-year rotation, it is time now to consider nominations for the Vice-Chair and Secretary/Treasurer positions. Also, Julie Bartley will finish her term this year on the Joint Technical Program Committee (JTPC). Serving on the JTPC is a great way to keep up with trends in sedimentary geology and serve the division. If you would like to serve on the JTPC or nominate someone for either of the SGD Management Board Positions, please contact Dan Larsen at dlarsen@memphis.edu.

GCSSEPM

Answering the Challenges of Production from Deep-Water Reservoirs:

Analogues and Case Histories to Aid a new Generation

December 7-9, 2008

Marriott Westchase: Houston, TX

Information and registration are available
At our web site:

www.gcssepm.org