The Engineering Geologist

THE GEOLOGICAL SOCIETY OF AMERICA

NEWSLETTER OF THE ENGINEERING GEOLOGY DIVISION OF THE GEOLOGICAL SOCIETY OF AMERICA

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A Message From The Chairman of The Committee on Short Courses Sponsored or Co-sponsored by GSA

Chairman Elwood R. Brooks would like to contact those who have expressed a desire or who may be thinking about presenting a short course or workshop at a GSA Annual Meeting. Those interested should know that the door is open for submitting proposals. Divisions that co-sponsor a course can receive up to 20% of the course surplus after expenses. From GSA's News & Information:

CALL FOR SHORT COURSE PROPOSALS

Have you thought about giving a short course? The GSA Committee on Short Courses invites those members interested in proposing a GSA-sponsored short course to contact GSA headquarters for proposal guidelines.

Short courses may be conducted in conjunction with all GSA annual or section meetings, but we are particularly interested in identifying short courses to be offered during the 1989 Annual Meeting in St. Louis.

Proposals for the St. Louis meeting must be received by December 15, 1988. Selection of courses will be made by February 1, 1989, leaving 8 months for preparing course manuals and making arrangements.

For proposal guidelines or further information, contact Edna A. Collis, Short Course Coordinator, GSA Headquarters, (303)447-2020.

GSA OFFERS SHORT COURSES AT THE 1988 CENTENNIAL CELEBRATION

The Geological Society of America will present several short courses on the weekends prior to and after its 1988 Centennial Celebration in Denver, Colorado, which will be held October 31-November 3, 1988. The courses are designed for several professional levels, and participation is open to the public.

. Use of Microcomputers in Structural Geology will bring researchers and teachers up to date on algorithms, applications, and the design and use of computer hardware-software packages which will be of major importance to structural geology during the next decade.

. Ore Deposition Associated with Magmas is a review and update on many aspects of sulfide ore deposition associated directly with magmas.

. Geographic Information Systems: A Tool for Geological Data Analysis and Interpretation will teach the principles of Geographic Information Systems (GIS), demonstrate their application and help participants to evaluate the applicability of GIS for their own purposes.

. Glacial Facies Models will present a summary of physical processes and the lithofacies produced in terrestrial, coastal, and marine environments.

. Seismic Imaging of the Continental Crust will promote the integration of new, high-resolution seismic imaging in geological studies of continental basement.

. Geological Considerations in Hazardous-Waste Site Characterization will be directed toward the solution of geologic hydrogeologic, and geotechnical problems encountered in the characterization of sites for hazardous waste management.

. Quantitative Sedimentary Basin Modeling will stress the quantitative aspects of basin analysis, focusing primarily on how geodynamic processes influence the evolution of sedimentary basins and control the development of stratigraphic sequences.

. Seminar in Geoscience Writing will teach participants a unique method for organizing all kinds of on-the-job writing, from short memos to long reports.

. The Evolution of Reef Communities will emphasize the compositional and structural history of communities dominated by reef-building algae, sponges, corals, and rudistid bivalves during the Phanerozoic, their evolutionary and mass extinction history, and their relations to global oceanographic, climatic (e.g., glaciation), and tectonic events.

The preregistration deadline is October 7, 1988. On-site registration is based on availability of space. Contact Edna Collis for fees, dates and times, and further information at (303) 447-2020.

Proposals are also welcome for the 1989 meeting, as well as for the 1990 GSA Annual Meeting in Dallas. All proposals submitted are reviewed and considered on their individual merits. Short Course Proposal Guidelines may be obtained at anytime from the Meetings Department.

A Message From our Chairman-Elect

Engineering Geology Division

August 19, 1988

Dear Fellow Members of EGD:

One advantage to our division's route to chairpersonship is that it provides an individual with an opportunity to observe first-hand the strength and weaknesses of the division. EGD is a strong division of the Geological Society of America. We are the fourth largest with 1159 members. Despite our strength in numbers, our visibility in the geological profession is relatively low. To increase awareness of the exciting and challenging careers that are available in engineering geology, I have worked this year with the Association of Engineering Geologists to develop a distinguished lecture series. Our objective is to bring engineering geology to the attention of students and faculty at colleges and universities. Each year EGD and AEG will select a speaker whom they will make available for public lectures. We will provide travel expenses and an honorarium for the speaker. Topics will range from the practical to research. We hope that our distinguished lecturer will convey the challenge and the excitement of engineering geology as a career.

The series will be named in honor of Richard H. Jahns, whose enthusiasm for engineering geology was contagious and affected many of us. I would like to invite all of you to join us at the division lunch on Tuesday, November 1, to participate in the formal announcement of the 1989 Richard H. Jahns Distinguished Lecturer in Engineering Geology. We have invited Dick's wife, Frances, to join us for the announcement and it will provide an opportunity for many of you to renew old acquaintances.

As the division program chairman for this year, I hope you will share in my enthusiasm for our centennial program in Denver. Our division symposium, Hazard reduction in the 21st Century, was organized with both the past and future in mind. Beach Leighton and I have invited specialists on many hazards to review the progress of the past century and to predict where we are headed in reducing risk from natural and man-made hazards. If we as engineering geologists do our jobs during the next 100 years, millions of lives may be spared. Our field trip will be led by Pat Rogers, Bruce Stover, and Jim Soule. It will be a two-day, pre-meeting excursion into the hazardous canyons of western Colorado where major landslides and geotechnical problems have provided many restless nights for engineering geologists. We are only going to risk one bus on this trip, so be sure to register early. See you at the Centennial Celebration.

Thomas L. Holzer
Chairman-Elect

From the Editor:

Remember to place the following on your schedules:

(1) Symposium #4. Hazard Reduction in the 21st Century

(2) Field Trip (Pre-meeting) - Major Landslides and Geotechnical Construction Problems in the Mountains in Colorado.

FLASH: Press Release Announcing the BSSC's Seismic Considerations handbooks.

Building Seismic Safety Council Introduces New Handbooks on Seismic Safety

The Building Seismic Safety Council (BSSC) has just announced the release of a new series of Seismic Considerations handbooks. The series was developed for owners, developers, financiers, designers, public officials and others involved in the decision-making process for the design and construction of elementary and secondary schools, health care facilities, and hotels and motels.

More than 40 states are prone to earthquakes, says James R. Smith, executive director of the BSSC.

"Buildings are still being constructed without regard to their safety during an earthquake, even though most earthquake deaths and injuries are caused by falling debris and building collapse," states Mr. Smith.

The purpose of the Seismic Considerations handbooks is to encourage consideration of earthquake-resistant design and construction in seismic risk areas throughout the United States. Each handbook provides an accessible source of expert information including the benefits and costs of designing and constructing specific facilities to resist earthquake damage.

"Schools, hospitals, and other special occupancy buildings like hotels and motels, and office and apartment buildings are important elements in our communities, due to the nature of their occupancies, functions, and, in the case of schools and hospitals, their importance in disaster response and recovery efforts," declares Mr. Smith. "Each of these building types should be built to resist earthquakes regardless of current practices for non-essential, similar, or less densely populated buildings."

Currently available are three handbooks: elementary and secondary schools, health care facilities, and hotels and motels. Handbooks for office buildings and apartment buildings will be published later this year to complete the series, funded by the Federal Emergency Management Agency (FEMA).

In addition to addressing the life safety considerations that are major concerns of seismic codes and standards, the handbooks present information on the damage that can result in a loss of building function. Using conventional real estate analyses, each illustrates the long term rate of return on a seismic design investment. Further, each handbook illustrates how sound seismic design makes good sense-- quite apart from life and public welfare protection -- by demonstrating how, if a shake occurs, the benefits associated with not having a break in continuity of operations far outweigh the costs of seismic design and construction.

The Seismic Considerations handbooks draw upon lessons learned in past earthquakes and the results of an earlier trial designs program to show that the additional costs of earthquake-resistant design most often are not cost prohibitive.

"The fact is, seismic resistant design need not be expensive," emphasizes Smith. "When undertaken as part of the original design effort by a team familiar with seismic design, incorporating seismic provisions such as the NEHRP Recommended Provisions is generally less than 1.5 percent of construction costs, which is, of course, only part of the total project costs."

NEHRP refers to the National Earthquake Hazards Reduction Program, a nationwide earthquake hazard mitigation effort first authorized by Congress in 1977. With funding from FEMA, the BSSC developed and approved by consensus the NEHRP Recommended Provisions for the Development of Seismic Regulations for New Buildings, a comprehensive, state-of-the-art set of building design provisions that are national in scope. The Provisions will soon be reissued as an updated 1988 edition.

Each Seismic Considerations handbook is divided into two parts. Part one is intended for those involved in the decision-making process -- including building owners and developers, insurers, investors and financiers, elected officials and members of school and hospital boards. The earthquake hazard situation in the United States is described and the specific risk to each type of facility is outlined. Part one of the handbook also discusses means for mitigating the hazard and the cost-benefits of seismic design.

The second part is aimed at building designers and highlights particular earthquake design problems related to each building type. Part two also discusses how the NEHRP Recommended Provisions treat those problems. Each handbook also contains a list of sources, a glossary, and a case study.

The Building Seismic Safety Council is an independent voluntary body under the auspices of the National Institute of Building Sciences. The BSSC has a membership of nearly 60 organizations representing all major segments of the building community.

Copies of Seismic Considerations: Elementary and Secondary Schools, Seismic Considerations: Health Care Facilities, and Seismic Considerations: Hotels and Motels are available in limited quantities free of charge. Write Christina Rossomando, Building Seismic Safety Council, 1015 Fifteenth Street NW, Suite 700, Washington, D. C. 20005 or call (202) 347-5710.

Announcement of Future Events in Engineering Geology and Geotechnical Engineering

International Working Meeting on Soil Micromorphology (meeting of Subcommission B of the International Society of Soil Science), July 10-15, 1988, San Antonio, Texas. Information: L. P. Wilding, Dept. of Soil and Crop Sciences, Texas A&M University, College Station, Texas 77843-2474; (409) 845-3604.

Soil and Water Conservation Society Annual Meeting, July 31-August 3, 1988, Columbus, Ohio. Information: Alan C. Epps, 7515 NE Ankeny Road, Ankeny, IA 50021-9764; (515) 289 -2331.

International Symposium on Rock Mechanics and Power Plants, September 12-16, 1988, Madrid, Spain. Information: ISRM Symposium Sociedad Espanola de Mecanica de las Rocas. Paseo Bajo de la Virgen del Puerto, 3 28005 Madrid, Spain.

International Symposium on Engineering Geology: Study, Preservation and Protection of Ancient Works, Monuments and Historical Sites, September 19-23, 1988, Athens, Greece. Information: Paul G. Marinos, Greek Committee of Engineering Geology, 1988 Symposium Secretariat, P. O. Box 19140, GR-11710 Athens, Greece; Telex 45 4312 POLX.

International Conference on Disposal of Radioactive Waste in Seabed Sediments, September 20-21, 1988, Oxford, England. Information: Society For Underwater Technology, 1 Birdcage Walk, London SWIH 9JJ, England; phone 01-222 8658; Telex 917944.

Denver GeoTech '88: Tools for Geocomputing, October 1-4, Lakewood, Colorado. Information: Chuck Bierley, CB & Assoc. 122 Zang Court, Lakewood, Co 80228; (303) 989-2989.

Ter-Qua'88, symposium and field conference on global climate and the future of the High Plains aquifers, October 6-9, 1988, Lincoln and North Platte, Nebraska. Information: Institute for Tertiary-Quaternary Studies, 2739 Centenary, Houston, Texas 77005; (713) 661-4038.

Geochautauqua '88: Computers for the Analysis of Geochemical and Hydrogeochemical Data, October 7-8, 1988, Tucson, Arizona, AZ 85721; (602) 621-6859.

Geothermal Resources Council Annual Meeting, October 9-12, 1988, San Diego, California. Information: Geothermal Resources Council , P. O. Box 1350, Davis, CA 95617-1350 (916) 758-2360; Fax (916) 758-2839.

Association of Engineering Geologists 31st Annual Meeting, October 16-21, 1988, Kansas City, Missouri. Information: William Bryson, Kansas Corporation Commission, 4th Floor, State Office Bldg., Topeka, KS 66612; (913)296-5113.

International Symposium on Remote Sensing of Environment, October 20-26, 1988, Abidjan, Ivory Coast. Information: Alan K. Pakder, P. O. Box 8618, Ann Arbor, MI 48107-8618; (313) 994-1200, ext. 3886.

American Society of Civil Engineers Convention, October 23-27, 1988, St. Louis, Missouri. Information: ASCE Conventions and Exhibits Dept., 345 East 47thSt., New York, N.Y. 10017; (212) 705-7543.

Geological Society of America 100th Meeting, October 31-November 3, 1988, Denver, Colorado. Information: Meetings Dept., GSA, P. O. Box 9140, Boulder, CO 80301; (303) 447-2020.

Advances in Ground-Water Hydrology, Nov. 16-18, 1988, Tampa, Florida. Information: American Institute of Hydrology, 3416 University Ave. S.E., Suite 200, Minneapolis, MN 55414;(612) 379-1030

Second Symposium of the Application of Geophysics to Engineering and Environmental Problems, March 13-16, 1989, Golden, Colorado. Information: Ron Bell SEMEG, C/O BellWest Geoservices, P. O. Box 10845, Edgemont Branch, Golden, CO 80401.

Engineering Geology and Geotechnical Engineering 25th Anniversary Symposium, Reno, Nevada, March 20-23, 1989. Sponsor: University of Nevada Reno's Civil Engineering and Geological Sciences Depts. and Division of Continuing Education.

Paper topics: Waste management and and design for nuclear and chemical waste; geophysical and in situ methods of site characterization; geotechnical applications of geostatistics and probability; Engineering solutions to geologic hazards; earthquake engineering; foundation engineering; highway materials and pavement design and case histories. Deadline: August 15, 1988 for one page abstract. Contact: Dr. Bob Watters,

Mackay School of Mines, University of Nevada-Reno, Reno, NV 89557; (702) 784-6069

40th Annual Highway Geology Symposium, May 17-19, 1989, Birmingham, Alabama. Information: Kathy Keller, Alabama Highway Dept., Bureau of Materials and Tests, 1409 Coliseum Blvd., Montgomery, Alabama 36130; (205)261-5788.

Engineering Geology in Tropical Terrains, June 26-29, 1989. Selangor Darul Ehsan, Malaysia. Information: Organising Secretary, Conference on Engineering Geology in Tropical Terrains, Dept. of Geology, University Kebangsaan, Malaysia, 43600 Bangi, Selangor Darul Ehsan, Malaysia.

6th International Symposium on Water-Rock Interaction, August 3-8, 1989, Malvern, England, Information: W. M. Edmunds, Hydrogeology Research Group, British Geological Survey, Wallingford, Oxon Ox10 8BB, England; (0) 491-38800, ext 2293 Telex 849365 HYDROL G; Fax (0) 491-32256.

Dunes '89 Geomorphology and Ecology of Desert and Coastal Sand Dunes, August 14-17, 1989, Swakopmund, Namibia. Information: Dunes '89, c/o J. D. Ward, P. O. Box 2168, Windhoek, Namibia 9000.

14th International Cartographic conference, August 17-24, 1989, Budapest, Hungary. Information: Conference Secretary, Institute of Geodesy, Cartography and Remote Sensing, P. O. Box 546. H-1373 Budapest, Hungary.

Second International Research Symposium on Clastic Tidal Deposits, August 22-25, 1989, Calgary, Alberta. Information: Ray Rahmani, Canadian Hunter Exploration Ltd., 435 4th Ave., S. W., Calgary, Alberta T2P 3A8, Canada; (403) 260-1813.

9th International Clay Conference, August 28-September 2, 1989, Strasbourg, France. Information: Helene Paquet, Inst. de Geologie, 1 rue Blessig, 67084, Strasbourg, France.

24th Annual Shallow Exploration Driller Clinic, March 1-2, 1989, Lincoln, Nebraska. Theme: Shallow geotechnical exploration techniques. Eight papers. Contact: Duane Eversoll, University of Nebraska, Lincoln, Nebraska 68588-0511.

1989 GSA Annual Meeting Field Trips, March 6-9; Engineering/Environmental Geology of The St. Louis Area. Contact: John D. Rockaway, Dept. of Geological Engineering, 129 McNutt Hall, University of Missouri; Rolla, Rolla, MO 65401.

Do You Remember When?

Do you remember when the term mass movement was first introduced into general use? It was fifty years ago, in 1938, in a book titled Landslides and Related Phenomena, a Study of Mass Movements of Soil and Rock by C. F. Stewart Sharpe. In a recent note to the Editor, Dr. Sharpe stated he "did not invent the term "'mass movement"' but put it into the general vocabulary to cover the whole field of landslide-related processes. The concept and the term mass movements have proven useful over the fifty year period and are still going strong".

Truly, it is very appropriate to note the fifty years of mass movements along with the 1988 Centennial Celebration. We can all thank Dr. Sharpe for this most basic thought provoking and all-encompassing term and concept.

From the Newsletter Editor,

A. G. Keene

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100

OCTOBER 31–
NOVEMBER 3, 1988

DENVER,
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CENTENNIAL MEETING & EXHIBIT

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