The Engineering Geologist

THE GEOLOGICAL SOCIETY OF AMERICA

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

Volume 9 Number 1 March 1974

FROM THE CHAIRMAN

In this issue of the Engineering Geologist, you will find that we are listing the telephone numbers of all EGD personnel with current service responsibilities in the Division. We have done this to encourage communication between EGD members and those of their colleagues designated to serve them.

We encourage you to send us not only your complaints and suggestions, but also your "big" ideas—including the blue-sky variety. Any viable organization needs a continuing infusion of ideas from its membership; in engineering geology we are currently faced with challenges and problems requiring the best collective as well as individual wisdom. Call us, please.

We also solicit news notes—not only about people, but about events, reports, and related developments in other disciplines and professions. If you would like to submit a short technical item that would be of widespread interest among the EGD membership, by all means do so.

Members of the Management Board have also agreed unanimously that it is highly desirable that engineering geology should become increasingly prominent at GSA sectional meetings and in local geological societies. We believe that we have something useful to contribute at such meetings and that our members are quite capable of doing an effective job of communicating.

— Howard J. Pincus, Chairman

Committee Reports - 1973

TECHNICAL COMMITTEE: ENGINEERING SEISMOLOGY

There have been several significant items of interest to members concerned with engineering seismology. A new journal has been published entitled "Abstract Journal in Earthquake Engineering." The journal contains abstracts and indices and is divided into seven sections. Among the areas of interest are engineering seismology, seismometry, and earthquake damage. The journal is available through the Earthquake Engineering Research Center, University of California, 1301 South 46th Street, Richmond, California 94804, at $10 per year.

NOAA's Environmental Data Service has announced the availability of digitized strong-motion accelerogram data from the San Fernando earthquake of 1971. The data are from 65 locations and are on two magnetic tapes at a cost of $60 per tape.

There was an Earthquake Engineering Research Institute conference in San Francisco on November 29-30, 1973, that presented findings on the Managua earthquake of December 23, 1972. Among topics that were discussed were seismology, engineering geology, soils engineering, and seismicity.

A reconnaissance report of this earthquake is available for $5 from EERI, Frank E. McClure, Secretary, 366 40th Street, Oakland, California 94609. For orders outside the United States, add $1.

A two-volume report on the proceedings of the International Conference on Microzonation for Safer Construction Research and Application, which was held on October 30—November 3, 1972, at Seattle, Washington, is available for $40 from M. A. Sherif, University of Washington, 124 More Hall, Seattle, Washington 98195. There are a number of pertinent papers to engineering seismologists in this report.

— D. E. Willis

TECHNICAL COMMITTEE: UNDERGROUND EXCAVATION

U.S. National Committee on Tunneling Technology

The U.S. Committee on Tunneling Technology (NCTT) met in Denver during the week of September 10, 1973, and initiated a major study of contracting practices employed in underground construction. Present contracting procedures are generally not conducive to innovations in tunnel construction which might result in benefits to both the contractor and the tax-paying public. Also, under current procedures, too many projects end in extremely costly claims and lawsuits. The study to develop improved methods for contracting will be financed by several contractors' organizations and governmental agencies.

Howard J. Pincus is the GSA representative to the NCTT.

International Society for Rock Mechanics

The Third International Congress of the International Society for Rock Mechanics will be held in Denver, Colorado, September 1-7, 1974. Included among the theme topics is analysis and design of permanent and temporary underground openings in rock.

Need for Improved Geologic Prediction

The continuing need for improved methods of predicting rock, soil, and groundwater conditions that will be encountered in underground construction is emphasized by the several conferences and institutes that have been held or are planned, and by research projects and studies that are being conducted. The geologist needs better tools to assist him in estimating conditons many feet under ground or ahead of the tunnel face. Also, a need remains for improvement of methods for quantifying and communicating estimates of conditions and effects on construction to engineers and contractors.

— James C. Gamble

Committee Reports - 1973

LIAISON: NORTHEAST SECTION

One session of the annual section meeting, held in Allentown, Pennsylvania, March 21–24, 1973, contained the majority of papers delivered on subjects related to engineering geology. The session, entitled "Environmental-Geophysics-Hydrology," attracted e total of ten papers. Members of the Division also contributed papers to other parts of the program. In an individual manner, members of the Northeastern Section have also contributed to the annual national meeting and have participated in a Penrose Conference on "Earth Sciences and Environmental Decision Making." The best summation that I can make, perhaps, is that Division members resident in the Section have participated as individuals but I have been unable to detect any organized activity of the EGD in the Section. That observation both concludes my report and introduces my subsequent comments.

It appears to me that the Division is a creature of national Society, organized for communications through the newsletter and through symposia at the annual meeting of the Society. I am not convinced that it needs to be more to be a success, however. Nonetheless, it has occurred to me that the Division might consider exploring the idea of organized activity within the Sections. At present the Division Lieison Representative is not a member of the Section Executive Committee nor of the Section's Annual Meeting Committee. There is little apparent precedent for the role that the representative might play or service that he could render to the Section or the Division.

Possibly the nemes and addresses of the various Division Liaison Representatives should be published in the Division newsletter or that of the President along with an encouragement for members to contact the representative with comments, suggestions, or ideas for Division or Section activities. Further, there might be some utility in having brief Division meetings at the various Section meetings to explore the need for or desire for Section-level symposia, field trips, regional publications, or other things of interest at the Section level. Some thought should be given to the use of this position. It might have a definite use in the life of the Society, but at present that is not apparent. I have had a few other ideas along this line but this gives you something to chew on.

— A. G. Everett

THE ENGINEERING GEOLOGIST

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LIAISON: AMERICAN SOCIETY OF PHOTOGRAMMETRY

The American Society of Photogrammetry has as its goals the acquisition, mensuration, and interpretation of photographs and remote sensing. In the past the society has concentrated on the means of acquiring data and the measurements of air photos to map making. With the advent of satellite imagery, the interpretation of photographs has become increasingly important, and at the annual meeting held in Washington each March, more and more emphasis is being placed on interpretation.

Much of the interpretation of remote sensing has an application to engineering geology. Probably the most interesting of the results of satellite photos are the number of studies of lineaments that have been related to earthquakes. As an example, a paper by E. Y. Kedar, William Patterson, and S. Y. Hsu (1973, Earth Risk Mapping, Am. Soc. Photogrammetry Jour., v. 39, no. 8) shows a technique of using satellite imagery in presenting a synoptic analysis of the likelihood of the occurrence of earthquakes. The study is applied to the Los Angeles area and includes, besides satellite imagery which shows inferred structural lineaments, geologic records of fault lines and seismic history. The results show six risk zones ranging from none to extremely high. This technique will become much more important as the need for impact statements increases.

Another article of interest in the same issue is Harrison Schmitt's "The Measure of the Moon," which describes the methods used in getting the detailed geometry and orientations of sample localities. The American Society of Photogrammetry, besides its annual meeting in Washington, holds other local meetings in other parts of the country. These included in October a meating at Orlando, Florida, dealing with research on environmental matters through remote sensing, and one in Sioux Falls, sponsored by the U.S. Geological Survey's EROS Data Center, on applications of remote sensing. For details on possible meetings in other parts of the country, write to A.S.P., 105 North Virginia Avenue, Falls Church, Virginia 22046.

— C. F. Withington

LONG RANGE PLANNING COMMITTEE

The Long Range Planning Committee has in the current year considered the following items: (1) the Division's relationship with AEG, and (2) having the Chairman-Elect of the Division serve as its Joint Technical Program Committee representative.

It is the opinion of the Long Range Planning Committee that a closer relationship with AEG should be encouraged, possibly scheduling meetings at the same time, or at least overlapping, since many of our members also belong to AEG.

The committee also believes that having the EGD Chairman-Elect serve as the Joint Technical Program Committee representative is a good idea.

— Richard E. Gray

REQUEST FOR NEWSLETTER ITEMS

Please submit items of interest to the membership of the Engineering Geology Division by sending them to the newsletter editor, Mary E. Horne, General Analytics, Inc., 570 Beatty Road, Monroeville, Pennsylvania 15146. Four issues are planned for 1974. The tentative publication schedule is as follows:

Transmittal of material	*Members receive newsletter*
February 1	March 15
May 1	June 15
August 1	September 15
November 1	December 15

Approximately six weeks is necessary for printing and mailing, so if you want to announce a meeting, please check the above schedule.

Conferences

International Conference on Genetic Principles of Engineering — Geological Study of Soils and Rocks: Moscow, June 4–7, 1974

This conference is aimed at a broad discussion of principal problems and exchange of experience between scientists of different countries on the problems of the influence of genesis of soils and rocks on their engineering-geological properties, as well as at the extension of international connections between specialists in the field of engineering geology within the framework of activities of the International Association of Engineering Geology.

The conference will be June 4–7, 1974, in Moscow, at Moscow State University. After the conference, all who wish can take part in the tourist trip, using the route suggested by the "Intourist."

The following topics will be discussed: (1) present-day knowledge of formation of engineering-geological properties of rock and soils; (2) role of physico-chemical and thermodynamic conditions in the process of formation of composition, structure, and properties of rocks and soils; (3) formation of properties of sedimentary rocks and soils in the process of lithogenesis; (4) formation of properties of magnetic and metamorphic rocks; (5) influence of tectonic factors on state and properties of rocks and soils; and (6) alteration of properties of rocks and soils under the influence of weathering.

The official languages of the conference are French, English, and Russian. Simultaneous interpretation will be available.

Second International Congress of Engineering Geology, São Paulo, Brazil, August 18–24, 1974

By appointment of the Executive Committee of the International Association of Engineering Geology (IAEG), and organized by the Associação Brasileira de Geologia de Engenharia (ABGE), the Second International Congress of Engineering Geology will be held at Palácio das Convenções, Parque Anhembi, São Paulo, Brazil, August 18–24, 1974. The IAEG and ABGE are honored to invite their associates and all others interested in the field of engineering geology to participate. The congress will be organized under the auspices of UNESCO.

The congress will be concerned with presentation, comparison, and discussion of research, results, information, ideas, and experience obtained in the field of engineering geology, attaining in this way the general aims of the IAEG: ". . . to encourage research, training and dissemination of knowledge by developing international cooperation in the field of Engineering Geology."

The selected themes are teaching and training in engineering geology, seismic phenomena and engineering geology, engineering geology related to urban and country planning, engineering properties and classification of natural materials of construction, mass movements, engineering geology related to dam foundations, and engineering geology and underground construction.

International Society for Rock Mechanics, Third International Congress, Denver, Colorado, September 1–7, 1974

This congress will include technical sessions, social events, field trips, and sightseeing tours. Also, following tradition, the Board and Council of the ISRM will meet to conduct official business and elect new officers.

Conference participants will ascertain on an international scale advances made in rock mechanics since the Second International Congress of the ISRM in 1970, and to indicate directions for future study. Special effort will be made to insure thorough discussion and exchange of views by participants. Publication of pre-Congress Volume I (Advances in Rock Mechanics) in the three official languages, and emphasis on the oral discussion sessions during the meeting, should stimulate this exchange of views.

The technical sessions will be in the Denver Hilton Hotel, the official headquarters of the Congress. Social events will take place at the hotel, at Denver City Auditorium, and at Colorado Springs, Colorado.

Following the program in Denver, several field trips will provide conferees the opportunity to visit underground works for mining, transportation, and water-resource projects. These trips will cover areas in the eastern United States, the Rocky Mountains, the northwestern United States, and southwestern Canada.

Themes for the congress are physical properties of intact rock and rock masses, tectonophysics, surface workings, underground openings, and fragmentation systems.

ECKEL RECEIVES AESE AWARD

Ed Eckel was awarded the first AESE Award for Outstanding Editorial Contribution during the 7th Annual Conference of Earth Science Editors, held in Ottawa in October. His nomination was based on his prominent roles in several major publications: the Landslide Symposium published by the Highway Research Board, the Alaskan earthquake reports published by the USGS, and the Nevada Test Site Symposium published by GSA. The award was presented by Marie Siegrist.

CASE HISTORIES SERIES

George A. Kiersch, Editor for the Engineering Geology Division's Case Histories series, is requesting contributions for the series. If you have a contribution or a suggestion for the committee's review, please write to George A. Kiersch, Department of Geology, Cornell University, Ithaca, New York 14850.

Engineering Geology Division - 1974

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