

IAS

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CONTENTS

Future of Sedimentary Geology	3
Messinian Event, Libya	8
Lacustrine Systems, Chile	9
Global Sedimentary Geology Program	10
Calendar	12

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FUTURE OF SEDIMENTARY GEOLOGY

Despite speeding around on the Internet and playing with Virtual Reality, *Homo sapiens sapiens* still belongs to this planet and has basic needs which root him, and his foreseeable future, to the Earth. Thus Earth System Sciences, including Sedimentary Geology, are assured of their place in tomorrow. However, adaptation to new environmental constraints and to new sociological perceptions will be necessary. A workshop sponsored by SEPM and IAS on the future of Sedimentary Geology and Paleontology was held in Snowbird, Utah, in October 1994. The resulting report comprises 78 pages, of which the Executive Summary is given below.

APPLICATIONS OF SEDIMENTARY GEOLOGY AND PALEONTOLOGY INTO THE 21ST CENTURY

**AN INTERNATIONAL WORKSHOP SPONSORED BY
SEPM (SOCIETY FOR SEDIMENTARY GEOLOGY) AND THE
INTERNATIONAL ASSOCIATION OF SEDIMENTOLOGISTS (IAS)**

Convened by H. Edward Clifton (Conoco, Inc.)
and Gail M. Ashley (Rutgers Univ.)

Introduction

- The advent of the 21st century finds practitioners of sedimentary geology and paleontology facing unprecedented changes in the application of their science. Petroleum exploration, a long-standing foundation of employment and stimulus for research in these fields, is undergoing drastic down-scaling in North America and faces an uncertain future globally. Simultaneously, needs for sedimentologic and paleontologic expertise are growing in other areas of

concern such as water resources, toxic waste remediation, coastal erosion, and global change. New technologies are emerging at an unprecedented rate. Clearly, these changes will greatly impact the numbers of scientists employed, the training and skills required, and the character of future basic and applied research.

- On October 16-20, 1994, 41 sedimentary geologists and paleontologists from 8 nations examined the implication of these changes and how best to meet the coming challenges.

The format was an international workshop at Snowbird, Utah, which was jointly sponsored by SEPM (Society for Sedimentary Geology) and the International Association of Sedimentologists (IAS). To the participants knowledge, this was the first attempt within the sedimentary geology/paleontology community to shape their own destiny by defining ways to enhance their relevance to the issues of tomorrow.

- This report summarizes the structure of the workshop and the resultant conclusions and recommended action items. Throughout this report, the term "sedimentary geology" is taken to include paleontology and stratigraphy.

Conclusions

Visions for the future

- Sedimentary geology impacts many aspects of modern life. It includes the study of sediment formation, erosion, transport and deposition and the chemical changes that occur thereafter. It is the basis for finding energy, industrial aggregate, and other resources. Sedimentary geologists are the custodians of the stratigraphic record, which provides the only long-term history of biological evolution and of processes such as uplift, subsidence, climate change, and the frequency and magnitude of earthquakes, storms, floods and other catastrophic events. The practice of

sedimentary geology will continue to contribute significantly to the quality of life into the next century and beyond.

- In the environmental area, the application of sedimentary geology will be crucial to predicting the movement of toxic contaminants and their impact on water resources. It will also play a key role in defining the impacts of natural disasters.

- Sedimentary geology will continue to be an integral part of hydrocarbon exploration and will play an increasing role in the recovery of oil and gas. It will also contribute to the finding and extraction of coal, industrial aggregates and other industrial minerals.

- An understanding of sedimentary geology will contribute significantly in developing judicious public policy on resources, environmental hazards and land use.

- The teaching of sedimentary geology will remain a critical part of a geoscience education. The retention of a strong educational capability is requisite for meeting the challenges of the future, including the replacement of many sedimentary geologists who will retire in the coming years. Educators must be able to transmit competency in new and rapidly emerging technologies.

- Scientific applications are increasingly multidisciplinary in nature. Professional alliances with other disciplines and groups, such as engineers and environmental

organizations, are needed to expand the role of sedimentary geology. These may take the form of collaborative functions among professional societies or individual efforts to forge links.

Technology

- Technology is currently advancing at a remarkable rate. New and emerging technologies will shape future research and applications. Awareness of and ability to use these new tools are critical, if sedimentary geology is to perpetuate and enhance its contribution. Major technological advances in five areas will continue to have significant impact on the fields of sedimentology and paleontology:

- (1) remote sensing (including core imaging and 3-D seismics)
- (2) sampling techniques
- (3) experimental analysis
- (4) computer analysis
- (5) communication.

Markets for employment

- Overall employment trends for sedimentary geologists into the 21st century will be flat to declining in most areas except, possibly, the environmental sector.

- Barring sharp reductions in environmental regulation or enforcement, the number of jobs is expected to continue to grow in the environmental industries.

- The job market within the petroleum industry is likely to continue to slowly shrink, but experience major perturbations owing to external factors such as an ending of oil-export embargoes against some nations (negative impact) or serious political upheaval in oil producing nations (positive impact).

- Jobs in the public sector are likely to decline, particularly in light of current attempts to reduce government.

- The job market within traditional academic education will remain flat or decline, but a modest growth potential is foreseen for nontraditional education, such as short courses, geotourism, and education within developing countries.

- The employment potential for entry-level sedimentary geologists will be enhanced as an aging population of their currently-employed counterparts in the petroleum industry, education, and the public sector enters retirement in the next 10-15 years.

Educational issues

- Future sedimentary geologists in both the environmental and petroleum industries will need

quantitative skills and a high level of computer literacy, solid grounding in the basic sciences, outcrop experience, an ability to communicate effectively verbally and in writing, and a capacity for teamwork.

- Continued decline of advanced training within oil companies, combined with a continued trend for outsourcing requirements for specialists, raise questions about the long-term maintenance of a cadre of experienced specialists to support future industry needs.

- The Masters Degree should be developed as the prime vocational degree. Although not a problem globally, more PhDs are being produced in the U.S. than the current job market can accommodate.

- An undergraduate degree in geology can be an excellent path to careers in other areas, since it incorporates a focus on nontraditional skills, such as problem solving, teamwork, and computer skills. The applied aspects of sedimentary geology are particularly suited to such a program.

- An exchange of personnel between academia, industry and government would promote the relevance of academic programs and enhance technical transfer in education.

Outreach and support

- Public awareness of the potential contributions from sedimentary geology to the resolution of societal problems is fundamental to the discipline achieving its full potential. Public outreach must be facilitated and encouraged.

- An improved ability to communicate the potential for contributions by sedimentary geologists with other disciplines, particularly engineers, is required in view of the current and evolving importance of sedimentary geology in environmental and energy issues.

- Solicitations for support to decision-makers at all levels can be made more effective by addressing the concerns of the decision-maker (relevance, priority, roles, funding) rather than the concerns of the scientist.

Key action items

- Mount a systematic campaign that will convey to the public, to decision-makers and to the rest of the scientific community, the potential contributions from applied sedimentary geology.

- Compile and publish a list of international case histories that document successful implementation of sedimentary geology toward a variety of societal problems.

- Recommend that SEPM/IAS become more directly involved in educational issues, perhaps by establishing an education committee, which could address issues and actions suggested in this report.

- Stimulate public outreach efforts by sedimentary geologists by urging them to become more active individually in public meetings / discussions on topics where sedimentary geology is relevant, by creating a format for publicizing public outreach efforts, and developing a systematic program for contacting the media to report geoevents and major scientific discoveries in sedimentary geology using new information technology.

- Bring sedimentary geology to the attention of students by producing fliers for undergraduates (and general audiences) that stress the

importance of sedimentary geology to society and by preparing posters to be displayed at central locations within universities dealing with particularly sensitive problems.

- Establish a distinguished lecture program on the applications of sedimentary geology to be delivered to a university-wide audience.

- Capitalize on new or emerging technologies by establishing workshops which focus on their potential and by developing informal mechanisms, such as electronic bulletin boards, for disseminating new technologic information.

- Compile and maintain a list of potential organizations for interaction and develop strategies for interfacing.

AN INTERNATIONAL CONFERENCE ON THE MESSINIAN EVENT, BENGHAZI, LIBYA

From the 14th to the 17th of January 1995 a multi-disciplinary international conference on "The Biotic and Climatic Effects of the Messinian Event on the Circum-Mediterranean" was organized by the Department of Earth Sciences, Garyounis University, Benghazi, Libya. It was followed by three field excursions to the northern Cyrenaican Platform to examine the Messinian evaporites; to the Sahabi area of eastern Sirt Basin to observe Messinian channels and Late Miocene - Pliocene estuarine and fluvio-estuarine infill and associated vertebrate fossils; and to Jabal Zaltan at the center of Sirt Basin to survey pre-Messinian (Early-Mid Miocene) fluvio-estuarine deposits and vertebrate fossil sites. This meeting brought together researchers from different backgrounds to review and compare data from around the Mediterranean. A number of new conclusions emerged.

New data suggest that the Messinian lasted 2 million years, a longer time than previously perceived. The beginning of the Messinian period is adjusted to 7.1 - 7.3 ma (from 6.3 ma), and the initial opening of the Atlantic floodgate is calibrated at 5.8 ma. Reflooding of the basin dates to 5.0 - 5.3 ma. Up to 25 depositional flooding cycles are recognized during the desiccation event. Geologic and geophysical data

confirm the presence of extensive incised palaeo-drainage systems in different areas around the Mediterranean. These deeply incised buried channels prove to be important ground water reservoirs in the Libyan Desert.

Data from carbon isotopes and vertebrate fauna from Greece, Libya, Spain and Abu Dhabi indicate that the Messinian was a period of aridity with widespread grasslands. The palaeoflora, on the other hand, suggests that the area north of the Mediterranean basin was warm-temperate with high humidity. Data from Asian - European and Asian - African and African - European animal migration routes are confirmed and used in demonstration. Palaeofauna and palaeoflora show latitudinal distribution patterns during the Messinian. Also, terrestrial and deep marine oxygen isotope records suggest a general cooling of palaeoclimate at the end of the Miocene, a prelude to the subsequent glaciation events.

The proceedings of the conference will be published in 1996.

A. S. El-Hawat
Department of Earth Sciences
P.O. Box 543
Benghazi
Libya

ANCIENT AND RECENT LACUSTRINE SYSTEMS IN CONVERGENT MARGINS

November 12th-18th 1995

Antofagasta - Iquique - Calama - San Pedro de Atacama

This IGCP-324 Meeting - Field Seminar will be held in Antofagasta as one of GLOPALS (Global Palaeo-environmental Archives in Ancient Lacustrine Systems) activities in 1995. All researchers interested in the study of lacustrine systems from diverse approaches (sedimentology, basin analysis, geochemistry, palaeoclimatology, palaeohydrology, palaeobiology and so on) are invited to participate in and/or to offer papers for presentation at the meeting.

Convergent continental margins provide some of the most striking tectonic settings for the development and evolution of lacustrine systems. Large or small, perennial or ephemeral, these lacustrine systems display a great diversity of hydrological, biological and sedimentary features. Lacustrine systems evolve there under complex and highly variable environmental situations affected by tectonic and

igneous processes (including much volcanic activity) and by changing climatic conditions. This IGCP-324-GLOPALS meeting will focus on the study of the record of such recent and ancient lacustrine systems as a key to understanding the tectonic and climatic evolution of vast, sensitive zones of our planet.

Holding the meeting in Northern Chile will provide the opportunity to attend a field trip to visit some of the most famous saline lake systems in South America (Salar de Atacama) and other not so popular, but no less fascinating, recent and ancient lacustrine deposits (Salar Grande, Salar de Llamara, Salar de Aguas Calientes, Altiplano Lagunas, Quillagua Formation).

For further information see Calendar.

*Dr. Lluís Cabrera
University of Barcelona
Spain*

GLOBAL SEDIMENTARY GEOLOGY PROGRAM (GSGP) NEWS

NEW ACTIVITIES:

Research Project Cretaceous Resources, Events and Rhythms (CRER)

A global-scale study of CRETACEOUS ORGANIC-RICH EVENTS (CORE) is a new initiative within Project CRER. The first activity of this initiative is a Global Inventory of Cretaceous Organic-Rich Events (GICORE). Its purpose is to establish and maintain a computer-based compilation of the basic data on Cretaceous black shales and related rocks that can be accessed by all interested investigators without cost.

The inventory will:

- identify the global distribution of Cretaceous source-rocks in time and space;
- provide controls for models of deposition and maturation;
- serve as an accessible repository for original analytical data;
- identify gaps in data and thereby encourage new data acquisition;
- provide a stimulus for collaborative activities;
- provide bases for paleo-oceanographic, paleoclimatic, and paleoenvironmental reconstructions of black shale deposition as part of CORE.

Additional information on GICORE can be obtained from: Dr. Barry J. Katz, Exploration & Production Technology, Texaco, 3901 Briarpark, Houston, TX 77042, Fax: 713-954-6113 or Dr. Philip A. Meyers, Dept. of Geological Sciences, The University of Michigan, C.C. Little Bldg., Ann Arbor, MI 48109-1063, Internet: pameyers@umich.edu

Research Project Pangea

A Planning Workshop on Mid-Late Permian Events, Environments and Resources is scheduled for March 27 and 28, 1996 during the IAS Regional Meeting in Sfax. The Workshop is aimed at developing plans for research on the following themes: 1) Paleoclimatic changes, biotic turnovers and geodynamic events; 2) Palaeoenvironments and sedimentation patterns; and 3) Resources of phosphorite and organic-rich sediments.

For information on the Workshop, contact Prof. Dr. Erik Flügel, Institut für Paläontologie, Universität, Loewenichstrasse 28, D-91054 Erlangen, Germany. Fax: 49-9131-85-26-90.

PANGEAN STRATABOUND RESOURCES is a new initiative in the developing stages.

Pangean sedimentary deposits yield much of the world's hydrocarbon resources, substantial quantities of phosphate and salt, and even strategic metals, e.g. tin, cobalt and platinum. These resources are tied to interactive sedimentologic and basin-forming processes that were unique to the Pangean landmass, because of its geometry, climate, related mantle convection, etc. The objectives of this initiative are: a) to establish a worldwide sedimentologic resource data base (Carb.- Cret. time

slices), accessible via the Internet, that will be integrated with Pangean reconstructions depicting paleoclimates, -oceans and tectonics; and b) to develop a clearer understanding of worldwide synchronous processes, events and factors that controlled the formation of stratabound resources.

The Organizer of this initiative can provide further information on plans and can be contacted at: Warren Manspeizer, Department of Geology, Rutgers University, Boyden Hall 407, Newark NJ 07102, U.S.A., Tel: (201) 648-5509, Fax: (201) 648-5100, E-mail: mansp@andromeda.rutgers.edu

PUBLICATIONS:

Cretaceous Carbonate Platforms. Edited by J.A. Simo, Robert W. Scott and Jean-Pierre Masse, AAPG Memoir 56, 1993, 479 pages. Order from the AAPG Bookstore, P.O. Box 979, Tulsa, OK 74101-0979, USA, \$83.75 includes shipping and handling, surface mail.

Pangea: Paleoclimate, Tectonics and Sedimentation during Accretion, Zenith and Breakup of a Supercontinent. Edited by George D. Klein, Geological Society of America Special Paper 288, 287 pages. Order from Geological Society of America, P.O. Box 9140, Boulder, CO 80301, USA, \$72.50 includes shipping and handling, surface mail.

Pangea: Global Environments and Resources. Edited by A.F. Embry, B. Beauchamp and D.J. Glass, Canadian Society of Petroleum Geologists Memoir 17, 1994. Order from Canadian Society of Petroleum Geologists, #505, 206 - 7th Avenue S.W., Calgary, Alberta, Canada T2P 0W7, \$75.00 includes shipping and handling, surface mail.

*R.N. Ginsburg
GSGP Chairman
University of Miami
Miami FL 33149-1098, U.S.A.*

CALENDAR

SEMINAR ON TRIASSIC EVENTS

June 2-4, 1995

TUNISIA (Tunis)

Contact: A.T.E.I.G. Dr. Hédi Ben Ismail,
Dept. de Géologie, Faculté des Sciences de
Tunis, Campus Universitaire, 1060 Tunis,
Tunisia.

PETROLEUM GROUP OF THE GEOLOGICAL SOCIETY OF LONDON

June 27-28, 1995: **Development and
evolution of the Wessex Basin and
adjacent areas;**

September 26-27, 1995: **Petroleum
geology of South East Asia;**

October 24-25, 1995: **Reservoir
characterisation and modeling;**

November 28-29, 1995: **Petroleum
geology of North Africa.**

ENGLAND (Bath and London)

Contact: The Conference Department, The
Petroleum Group, The Geological Society,
Burlington House, Piccadilly,
London W1V 0JU, England.

7TH INTERNATIONAL SYMPOSIUM ON THE ORDOVICIAN SYSTEM

June 12-16, 1995

U.S.A. (Las Vegas, Nevada)

Contact: Dr. Margaret N. Rees, Dept. of
Geosciences, Univ. of Nevada-Las Vegas,
Las Vegas, Nevada 89154-4010, U.S.A.
Tel: (702) 895-3262; Fax: (702) 895-4064

13TH SPANISH SEDIMENTOLOGICAL CONGRESS

June 26-July 2, 1995 (incl. field trips)

SPAIN (Teruel)

Contact: Alfonso Meléndez or Marc Aurell,
Dpto. Ciencias de la Tierra, Universidad de
Zaragoza, 50009 Zaragoza, Spain.

Tel: 34-76-351114; Fax: 34-76-565852

10TH INTERNATIONAL BATHURST MEETING ON CARBONATE SEDIMENTOLOGY

July 3-8, 1995

U.K. (London)

Contact: Dr. Dan Bosence, Royal Holloway
Univ. of London, Egham, Surrey,
TW20 0EX, UK.

Fax: (00) 44 (0) 784-471780

11TH SYMPOSIUM ON COASTAL SEDIMENTOLOGY

July 3-9, 1995

BRAZIL (Rio de Janeiro)

Contact: Prof. Cleverson Guizan Silva, Dept.
de Geologia/LAGEMAR, Univ. Federal
Fluminense, Av. Bento de Maria da Costa
115-a, Charitas, Niteroi, R.J. 24.370-190,
Brazil.

Fax: 5521-711-9917

**CLASTIC AND EVAPORATIVE
SYSTEMS AS ILLUSTRATED BY
UPPER OLIGOCENE AND LOWER-
MIDDLE MIOCENE DEPOSITIONAL
SEQUENCES, TELEAJEN VALLEY,
ROMANIA - FIELD TRIP**

**Romanian Sedimentology Group and
"L. Mrazec" Society of
Environmental Mineralogy and
Petrography**

July 10-13, 1995

ROMANIA (Bucharest)

Contact: Prof. N. Anastasiu or Mr. M. Popa,
Bucharest University, Faculty of Geology,
Mineralogy & Petrology Dpt., Bd. N.
Balcescu No. 1, 70 111, Bucharest,
Romania.

**INTERNATIONAL WORKSHOP ON
REEFS AND CARBONATE
PLATFORMS IN THE PACIFIC
AND INDIAN OCEANS**

July 10-14, 1995

AUSTRALIA (Sydney)

Contact: Douglas Bergersen and Peter
Davies, Dept. of Geology and Geophysics,
Univ. of Sydney, N.S.W. 2006, Australia.
Tel: 61-2-692-4050; Fax: 61-2-692-0184
E-mail: dought@es.su.oz.au

**SEPM CONGRESS ON
SEDIMENTARY GEOLOGY**

August 13-16, 1995

U.S.A. (St. Pete Beach, FL)

Contact: Myralee Rogers, SEPM Business
Office, P.O. Box 4756, Tulsa, OK 74159,
U.S.A.

Tel: (918) 743-9765; Fax: (918) 743-2498

e-mail: myralee@aip.org

Pre-registration: by July 15, 1995

**THE FIRST INTERNATIONAL
LIMNOGEOLOGICAL CONGRESS
RESEARCH METHODS IN
ANCIENT AND MODERN
LACUSTRINE BASINS**

The congress is sponsored by: IAS,

GLOPALS, UNESCO-IUGS,

IGCP-324 Project

August 21-25, 1995

DENMARK (Copenhagen)

Contact: "ILIC", Nanna Noe-Nygaard,

Geological Institute, University of
Copenhagen, Øster Voldgade 10, DK-1350
Copenhagen K, Denmark.

Tel: (45) 35322491; Fax: (45) 35322499

**2ND INTERNATIONAL
SYMPOSIUM ON THE GEOLOGY
OF THE EASTERN
MEDITERRANEAN REGION**

August 27-September 1, 1995

ISRAEL (Jerusalem)

Contact: Symposium Secretariat, P.O.B.

50006, Tel-Aviv 61500, Israel.

Tel: 972 3 5140014

Fax: 972 3 5175674 / 660325

**3RD INTERNATIONAL
BRACHIOPOD CONGRESS**

September 2-5, 1995

CANADA (Sudbury)

Contact: Paul Copper, Laurentian Univ.,

Sudbury, Canada P3E 2C6.

Tel: (705) 675-1151 (ext 6575)

Fax: (705) 673-6532

SANDSTONE PROVENANCE

**(Source area recognition - a
comparative petrology problem)**

An RCMNS workshop co-sponsored by the
IAS.

September 4-9, 1995

ROMANIA (Bucharest)

Contact: Nicolae Anastasiu, Department of
Mineralogy, University of Bucharest, IN
Balcescu Bd., 70111 Bucharest, Romania.

Tel: 400-14 35 08/152

**EUROPEAN MEETING OF THE
INTERNATIONAL SOCIETY FOR
REEF STUDIES: "BIOLOGY AND
GEOLOGY OF CORAL REEFS"**

September 5-9, 1995

U.K. (Newcastle)

Contact: Dr. Nicholas Polunin, Dept. of
Marine Sciences & Coastal Management,
University of Newcastle, Newcastle-upon-
Tyne, NE1 7RU, U.K.
Tel: +44 91 222 6659; Fax: +44 91 222 7891
E-mail: n.polunin@ncl.ac.uk

**TETHYAN AND BOREAL
CRETACEOUS
IGCP PROJECT NO. 362**

ANNUAL ASSEMBLY

September 17-18, 1995

NETHERLANDS (Maastricht)

Contact: Mascha Tiemessen, Laboratory of
Palaeobotany and Palynology,
Heidelberglaan 2, 3584 CS Utrecht, The
Netherlands.

Fax: 31-30-535096

E-mail:

M.Tiemessen@BOEV.BIOL.RUU.NL

**INTERNATIONAL SYMPOSIUM ON
KARREN LANDFORMS**

(A thematic symposium of the Commission
on Environmental Changes in Karst Areas)
September 19-22, 1995

SPAIN (Palma de Mallorca-Soller)

Contact: J. J. Fornos or A. Gines, Dept.
Ciencies de la Terra, Universitat de les Illes
Balears, 07071 Palma de Mallorca, Spain.
Fax: 34-71-173184

E-mail: detjfa@ps.uib.es

**3RD NATIONAL CONGRESS ON
EARTH SCIENCE**

September 19-24, 1995

TUNISIA (Tunis)

Contact: Prof. Moncef Gueddari (General
Secretary), Dept. de Géologie, Faculté des
Sciences de Tunis, Campus Universitaire,
1060 Tunis, Tunisia.

**COMPARATIVE EVOLUTION OF
PERI-TETHYAN RIFT BASINS,
IGCP PROJECT NO. 369**

Annual Meeting and Field Trip

September 29 - October 3, 1995

ROMANIA (Mamaia)

Contact: William Cavazza, Dept. of
Mineralogical Sciences, University of
Bologna, Italy.

Tel: +39 51 243 556; Fax: +39 51 243 336

E-mail: cavazza@geomun.unibo.it

see also the IGCP 369 homepage on the
Internet at:

<http://geode.geomun.unibo.it/min/igcp/igcp.htm>

**ANNUAL MEETING OF GERMAN
GEOLOGICAL SOCIETY (DGG)**

October 4-6, 1995

GERMANY (Greifswald)

Contact: Prof. G. Katzung, Institut für
Geologie und Paläontologie, Ernst-Moritz-
Arndt-Universität Greifswald,
Jahn-Strasse 17A, D-17489 Greifswald,
Germany.

Tel: +49-3834-77271, App. 298

Fax: +49-3834-883351

E-mail: dgg95@rz.uni-greifswald.de

**10TH ANNIVERSARY OF THE
AACHEN SEDIMENTOLOGY
GROUP: "INFORMATION
PROCESSING AND MODELING IN
GEOLOGY"**

October 11-13, 1995

GERMANY (Aachen)

Contact: Ulrich Mann, KFA/ICG-4, D
52425, Jülich, Germany.

**SEPM RESEARCH CONFERENCE
ON ALLUVIAL FANS**

October 17-21, 1995

U.S.A. (Death Valley, CA)

Contact: Myralee Rogers, SEPM Business
Office, P.O. Box 4756, Tulsa, OK 74159,
U.S.A.

Tel: (918) 743-9765; Fax: (918) 743-2498

THIRD INTERNATIONAL CONFERENCE ON ASIAN MARINE GEOLOGY

October 17-21, 1995

KOREA (Cheju Island)

Contact: Dr. Hong-Rhyong Yoo, Marine
Geology and Geophysics Division, KORDI
Ansan, P.O. Box 29, Kyungki-do, Seoul,
425-600, Korea

Fax: +82-345-408-5822

Telex: KORDI K27675

7th CANADIAN COASTAL CONFERENCE

October 18-21, 1995

CANADA (Halifax)

Contact: Mr. S. Solomon, Atlantic
Geoscience Centre, Bedford Institute of
Oceanography, Box 1006, Dartmouth, Nova
Scotia, B2Y 4A2, Canada.

Tel: 902 426 9459; Fax: (902) 426 4104

RIFT SEDIMENTATION AND TECTONICS IN THE RED SEA - GULF OF ADEN REGION

October 23-29, 1995

YEMEN(Sana'a)

Contact: Dr. Dan Bosence, Royal Holloway
Univ. of London, Egham, Surrey, TW20
0EX, U.K.

Fax: (00) 44 (0) 784 471780

or Dr. Mohamed Al - Aawah, P.O.Box
13200, Sana'a, Rep. of Yemen

Fax: (00) 967-1-214075

ANCIENT AND RECENT LACUSTRINE SYSTEMS IN CONVERGENT MARGINS

November 12-18, 1995

CHILE (Antofagasta)

Contact (in Spain): Dr. Alberto Sáez or Dr.
Lluís Cabrera, Dept. of Geología Dinámica,
Geofísica i Paleontologia, Faculty of
Geology, Campus of Pedralbes, 08028
Barcelona, Spain.

Tel: 34-3-4021364; Fax: 34-3-4021340

E-mail: alberto@natura.geo.ub.es

or lluis@natura.geo.ub.es

Contact (in Chile): Dr. Prof. Guillermo

Chong or Dr. Prof. Arturo Jensen,

Departamento de Ciencias Geológicas,

Faculty of Ingeniería y Ciencias Geológicas,

Avda. Angamos, Antofagasta, Chile.

Fax: 5655 248198 or 241724

E-mail: gchong@socompa.cccun.ucn.cl

ajensen@socompa.cccun.ucn.cl

INTERNATIONAL CONFERENCE ON QUATERNARY DESERTS AND CLIMATIC CHANGE (IGCP-349)

December 9-11, 1995

UNITED ARAB EMIRATES (Al Ain)

Contact: Dr. A. S. Alsharhan, Desert and

Marine Env. Res. Center, U.A.E.

University, P.O. Box 17777, Al Ain,

U.A.E.

Tel: (971-3) 638150; Fax: (971-3) 620486

BRITISH SEDIMENTOLOGICAL RESEARCH GROUP ANNUAL GENERAL MEETING

December 13-16, 1995

ENGLAND (Durham)

Contact: Maurice Tucker, Department of
Geological Sciences, University of Durham,
Durham, DH1 3LE, England.

Tel: +191 374 2524; Fax: +191 374 2510

E-mail: M.E.Tucker@Durham.ac.uk

FAUNA, FLORA AND SEQUENCE STRATIGRAPHY

December 14-15, 1995

FRANCE (Paris)

Contact: APF, Fauna, Flora and Sequence Stratigraphy Meeting, Laboratoire de Paléontologie, 8 rue Buffon, F75005 Paris, France.

Tel: +33 40 79 30 46; Fax: +33 40 79 35 80

E-mail:

simmonmd@txpcap.hou.xwh.bp.com

or: Annie Arnaud - Vannaud, Institut

Dolomieu, rue Maurice Gignoux,

38031 Grenoble Cedex, France.

Tel: +33 76 63 59 07; Fax: +33 76 87 82 43

E-mail: arnaudah@grenet.fr

4TH CONFERENCE OF THE SOCIETY OF EGYPTIAN SEDIMENTARY GEOLOGY

January 2-3, 1996

EGYPT (Cairo)

Contact: Prof. Soliman M. Soliman, Geology Department, Ain Shams University, Cairo, Egypt.

GEOLOGY OF THE ARAB WORLD Third International Conference

February 27 - March 1, 1996

EGYPT (Cairo)

Contact: Prof. S. Abdel Wahab (GAW), Geology Department, Faculty of Science, Cairo University, Giza, Egypt.

Fax: 202 5727556

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17TH IAS REGIONAL AFRICAN-EUROPEAN MEETING OF SEDIMENTOLOGY

March 26-28, 1996

TUNISIA (Sfax)

Preliminary registration until July 15, 1995

Contact: Dr. Mohamed Soussi, Ecole Nationale d'Ingénieurs de Sfax (ENIS), B.P.W. 3038, Sfax, Tunisia.

Tel: 216 4 274088 / 4418

Fax: 216 4 275595

6TH SPANISH CONGRESS AND INTERNATIONAL CONFERENCE ON ENVIRONMENTAL GEOLOGY AND LAND-USE PLANNING

April 24-27, 1996

SPAIN (Granada)

Contact: Technical Secretariat, VI CNGAOT, Dpto. de Congresos de Viajes Sacromonte, C/ Angel Ganivet 6, 18009 Granada, Spain.

Tel: 34-58-225598/9; Fax: 224617

Telex: 78484

CONGRESS "PALEOGENE OF SOUTH AMERICA"

May 14-18, 1996

ARGENTINA (Santa Rosa, La Pampa)

Contact: Dr. Silvio Casado, Dpto. Ciencias Naturales, Universidad Nacional de La Pampa, Uruguay 151, 6300 Santa Rosa, La Pampa, Argentina.

Tel: 54 954 33093; Fax: 54 954 33408

E-mail: RPMELCHO@ARCRIBA

6TH ARGENTINIAN SEDIMENTOLOGICAL MEETING

"La Sedimentología, el medio Ambiente y la Productividad"

May 17-23, 1996

ARGENTINA (Bahia Blanca)

Contact: G. M. E. Perillo, Presidente de la VI Reunion Argentina de Sedimentología, Instituto Argentino de Oceanografía, Avda. Alem 53, 8000-Bahia Blanca, Argentina.

Tel: 54-91-23555 / 20704

Fax: 54 91-553933

E-mail: Perillo@CRIBA.EDU.AR

TAPHOS '96 - "El análisis tafonómico y su proyección sobre las disciplinas geológicas y arqueológicas"

June 13-15, 1996

SPAIN (Zaragoza)

Contact: Guillermo Meléndez, Secretaría de la II Reunión de Tafonomía y Fossilización, Departamento de Geología (Paleontología), Universidad de Zaragoza, 50009 Zaragoza, Spain.

Tel: 976 351209; Fax: 976 565852

CORAL REEFS AND CARBONATE PLATFORMS WITHIN SILICICLASTIC SETTINGS - MODERN AND ANCIENT

Sub-symposium on the occasion of the 8th International Coral Reef Symposium

June 24-29, 1996

PANAMA (Panama City)

Contact: Rheinhold Leinfelder, Institut für Geologie und Paläontologie, Universität Stuttgart, Herdweg 51, D-70174 Stuttgart, Germany.

Tel: ++49 711 121 1339 (or -1340)

Fax: ++49 711 121 1341

or: Robert Ginsburg, University of Miami, RSMAS, 4600 Rickenbacker Causeway, Miami, Florida 33149-1098, U. S. A.

Fax: ++1 305 361 4094

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