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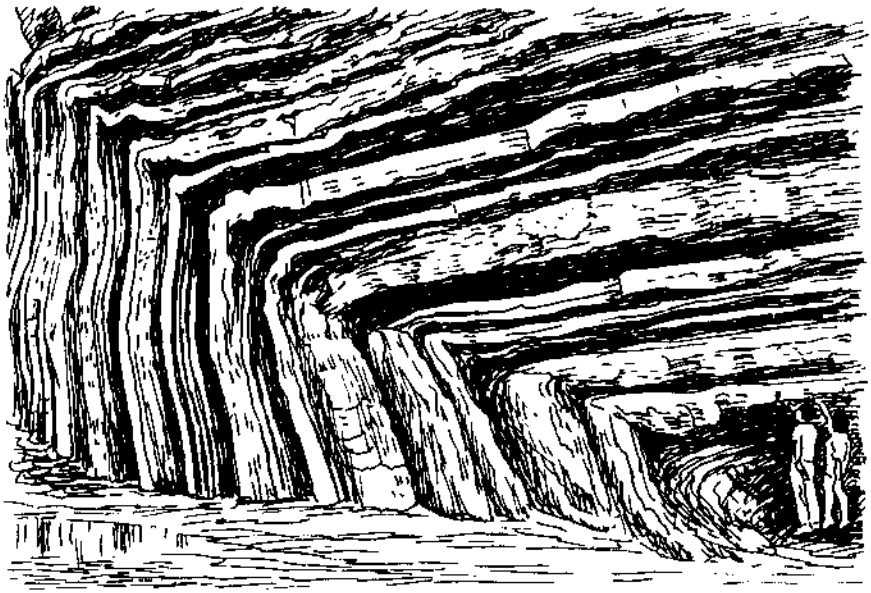

Carbonate turbidites
SW France

GENERAL NEWS

GLOBAL SEDIMENTARY GEOLOGY PROGRAM
A Commission of the International Union of Geological Sciences

# ANNOUNCEMENT OF AN INTERNATIONAL RESEARCH PROJECT CRETACEOUS RESOURCES, EVENTS AND RHYTHMS (CRER), GLOBAL PROCESSES AND THEIR SEDIMENTARY RECORDS

Prepared by the GSGP Program Development Committee*
Fall 1987

"IT IS ONLY BY MAKING LONG EXCURSIONS IN TIME AND SPACE THAT WE COME TO UNDERSTAND THE PLACE IN WHICH WE LIVE"
(H. Poincare)

The Cretaceous Period of earth history offers special opportunities for "long excursions in time and space" that can make major contributions to understanding global processes and their variations. The several transgressions of the Cretaceous left marine deposits over so much of the earth that they offer a unique opportunity to access the global synchronsity of eustasy and anoxia. This same sedimentary record also provides tests for Milankovitch rhythms, the keys to explaining the remarkably equable Cretaceous climate, and the chance to follow the development and demise of carbonate platforms. Biologically, the Cretaceous is a turning point in the history of life for it contains the "roots" of modern grasses, reptiles, placental mammals and calcareous plankton. Cretaceous sedimentary deposits contain vast amounts of natural resources: hydrocarbons in the Middle East, Soviet Union, People's Republic of China and in the Americas, bauxites and phosphorites in Europe and North Africa, kaolins and manganese ores in many places, and coals world-wide. Study of the Cretaceous sedimentary record on a global scale will surely reveal new information and concepts of processes in the oceans and atmosphere and their interaction with the biosphere.

Moreover, because the Cretaceous world was so different from our modern world, an understanding of its workings could inspire some new approaches to fathom present and future processes and their results.

OBJECTIVES OF PROJECT CRER

The ultimate goal of Project CRER is to increase understanding of the sedimentary products and the processes responsible for them during Cretaceous time. This goal will be reached through research that will: 1) test the global synchroneity of various rhythms and events; 2) characterize and explain sedimentary deposits that are widely distributed; 3) analyze the global patterns of resources to better understand controls on their formation and aid in further discovery and development; and 4) seek the inter-connections between processes in the biosphere, hydrosphere, atmosphere, and lithosphere. In addition to these overall research objectives, Project CRER will serve as a guide for subsequent GSGP Research Projects and a vehicle for promoting international exchange and training of sedimentary geologists.

FIVE INITIAL WORKING GROUPS are to identify research objectives and formulate plans to achieve them.

WG-1 Sequence stratigraphy and sea level changes.
Analysis of a global network of outcrops and seismic profiles will be used to test the concept that medium and small-scale sequences recorded globally-synchronous fluctuations in sea level.

WG-2 Sedimentation in oxygen-deficient oceans.
Testing the concept that the Cretaceous oceans experienced a series of anoxic events during which organic carbon-rich shales were deposited globally. To be accomplished by coordinated study of the sedimentology, paleontology, geochemistry, and paleoceanography of outcrops and oceanic sections (DSDP and ODP).

WG-3 Cyclostratigraphy.

A test of the idea that small-scale variations in bed thickness and composition of pelagic deposits are globally-synchronous and the product of orbital forcing (Milankovitch Rhythms).

WG-4 Development and demise of carbonate platforms.

Characterizing the growth history and anatomy of carbonate platforms and the conditions that were responsible for their abrupt decline.

WG-5 Paleogeography, paleoclimatology, and sediment flux.

Synthesis of the changing paleogeography of the Cretaceous; validation of models of paleoclimate by comparing them with sedimentary indices of climate; inventory of the volumes and compositions of sediments for selected time intervals.

TWO COORDINATING COMMITTEES will provide the all-essential time framework for the Working Groups and guidance in data management.

CC-1 Geochronology

Integration of the various chronologies: biostratigraphic, radiometric, magnetic, and sequence stratigraphy.

CC-2 Data Management

Establish procedures for recording and retrieving the various kinds of data collected by the Working Groups.

ORGANIZATION AND ACTIVITIES OF WORKING GROUPS AND COORDINATING COMMITTEES

In fall 1987, two or more convenors of each of the Working Groups will be named and charged with developing state-of-the art reviews of their topics and recommendations of the research that is needed. The convenors will solicit comment and suggestions from colleagues world-wide and from the GSGP Committees in various countries. These reviews and recommendations for research will be distributed in Spring 1988 and they will be the subject of Workshops of the individual Working Groups to be held during Summer 1988. The final reports of the Working Groups will be

published in Fall 1988 and they will provide the basis for planning coordinated research by groups or individuals from various countries and for the designation of leaders and members of the Working Groups.

The role of each Working Group is to identify research objectives, to provide the necessary background and training, and monitor the progress of research. The actual execution of research will be the responsibility of individuals and teams from various countries. Funding is to be sought by these groups from governments, industry, and private foundations.

FURTHER INFORMATION ON WORKING GROUPS AND COORDINATING COMMITTEES

In preparing their reviews and recommendations for research, the convenors of each Working Group will solicit inputs from recognized specialists, but they will also welcome suggestions and comments from others. Those who are interested in further information on individual Working Groups or Coordinating Committees are encouraged to write to the GSGP Secretariat indicating their relevant experience and interests. Address -

GSGP Secretariat
University of Miami
Fisher Island
Miami Beach, FL 33139
U.S.A.

BACKGROUND OF THE GLOBAL SEDIMENTARY GEOLOGY PROGRAM

The Global Sedimentary Geology Program is the activity of a new Commission of the International Union of Geological Sciences that was named in February, 1987. The objectives of the Program are:

1) To extend understanding of the history of the earth, surficial processes, the evolution of life, and the biotic influences on earth processes through global-scale research on sediments, sedimentary rocks and their contained organisms and remains.

2) To improve our ability to find, produce and husband natural resources in sedimentary deposits (water, hydrocarbons, minerals, ores, and building materials).

3) To expand and enhance the practice of sedimentary geology through training, exchanges, and cooperative research.

The Program Development Committee, whose members are listed below, is responsible for the implementation of research and training outlined in the planning document of GSGP (Report of an International Workshop on GSGP, Miami, FL, 1986). At its first meeting in Pasadena, California, in June, 1987, the Committee selected the Cretaceous Project (CRER) as the Program's initial research project. The decision was based on a series of oral reviews of potential research topics presented by A.G. Fisher, Michael A. Arthur, Seymour Schlanger, Wolfgang Schlager, Peter Vail and Eric Barron.

*Members of the Program Development Committee:
Liu Baojun, Chengdu Institute of Geology & Mineral Resources, People's Republic of China
Bernard Beaudoin, Ecole de Mines, Paris
Keith Crook, Australian National University, Canberra
Gerhard Einsele, University of Tubingen, FR Germany
Robert Ginsburg, Chairman, University of Miami, USA
Luis Spalletti, University of La Plata, Argentina
Peter Timofeev, Geological Institute, USSR Academy of Sciences, USSR

INTERNATIONAL GEOLOGY CONFERENCE

"CORRELATION IN HYDROCARBON EXPLORATION"

Principles, Practice and Problems

BERGEN, NORWAY

3 - 5 October 1988

(from J. Collinson)

Norwegian Petroleum Society (NPF) is planning a three day conference on the theme of "CORRELATION IN HYDROCARBON EXPLORATION" in Bergen, Norway, 3 - 5 October 1988.

"Correlation is fundamental to virtually every aspect of hydrocarbon exploration. It is carried out at a wide range of scales and through the application of an equally wide alternative of methods. At the largest scale, major episodes and events in the tectonic evolution of an area of the Earth's crust must be correlated, sometimes in the context of "events" of global distribution. At the smallest scale, individual sandbodies or even horizons within them must be correlated over distances of a few hundreds of metres to establish reservoir geometry.

Techniques and philosophies appropriate for large scale correlation (biostratigraphy, palaeomagnetism, eustacy and lithosphere modelling) contrast with those appropriate at the local scale (well logs, palynofacies, facies models). Methologies such as seismic stratigraphy and tectonic analysis bridge the intermediate scales. These various methods and approaches often provide ambiguous or even conflicting solutions. Some methods may not be as independent of one another as has perhaps been assumed.

The main themes will be established through a series of invited keynote talks. It is hoped that submitted papers will present further material through examples and case histories which will highlight both the successes and problems of different approaches.

A group of keynote speakers will include:
- J.F. Dewey (Oxford), A. Embry (Calgary), P. Vail (Houston), F. Surlyk (Copenhagen), L. Riley (London).
In addition, a panel of chairmen will be selected with a strong brief to encourage and lead discussions.

Proposed papers giving the title and a summary with a maximum of 500 words or approximately one A4 size page, should be sent to

Norwegian Petroleum Society (NPF)
P.O.Box 1897 - Vika
0124 OSLO 1, Norway
Telex: 77 322 nopet n, Telefax: 02/207211

no later than 1st FEBRUARY 1988.

## THE DANISH SEDIMENTOLOGICAL RESEARCH GROUP

(from Henrik Olsen)

The Danish Sedimentological Research Group (DSFG) held its 11th annual meeting on November 28th at the University of Copenhagen. The meeting was organized by Gunver Krarup Pedersen, Peter Johannessen and Henrik Olsen. The meetings of DSFG provide a forum where young and more established scientists can meet, and where especially the younger have an opportunity to present their work for a wider circle of colleagues.

The meeting progressed successfully with more than 50 participants and 20 papers. A wide range of topics was covered. Six papers on sedimentological facies analyses and architecture were presented. The topics spanned from marine over deltaic, and fluvial to aeolian environments. Five papers dealing with burial history and diagenesis were presented, while analytic methods were discussed by four speakers. Papers on Palaeozoic reefs, deformations in sediments, glacial and magneto-stratigraphy and sediment transport in modern rivers underlined the wide span of the DSFG meeting.

The meeting proved its value as a forum for informal presentations and discussions of current sedimentological research in Denmark.

# Italian Sedimentologists
## 1986-87 report

Italian sedimentologists are united in an informal group sponsored by the CNR (the National Research Council). Field trips and meetings are organized throughout the year. The Group includes more than one hundred scientists from Universities and Oil Companies, and the number is rapidly growing. Besides the meeting organization, the Group set up a number of committees dealing with several aspects of the Italian Sedimentology. Moreover, it oversees special research projects, the stay of visiting scientists and the participation of Italian scientists to international programs.

In 1986 the Group organized a thematic meeting with field trip in the Plio-Pleistocene foredeep of Central Italy, and a number of excursions on fan-deltaic units. Special attention was paid in investigating volcanoclastic deposits. For this purpose several foreign scientists have been invited and a field trip on Quaternary volcanics in Latium has been organized.

In 1987 three one-day meetings were held around Italy and two field trips, in Sicily and Friuli, dealt with Cainozoic turbiditic facies. A short course on fluvial facies was held in Southern Alps and the participants visited fluvial Permian deposits.

The major task of the Italian sedimentologists is the investigation of the basins associated with Alpine Orogenic belt. The best studied segment is the Apenninic Chain, but field studies spread out all over the Mediterranean area, namely in Spain, Morocco, Algeria and Greece. Turbidites and fan deltas are mainly studied, but fluvial deposits, present-day deltas and marine geology are other investigated items. Sedimentary petrology is vigorously carried out by several scientists, as well as seismic stratigraphy.

Newsletters are published and distributed to the Group participants. Newsletters contain announcements as well as progress reports and short communications. Anyone interested in

receiving the Newsletters of the Group may write to F. Ricci Lucchi, Dipartimento di Scienze Geologiche, Università di Bologna, 40127 Bologna Italy.

Gian Gabriele Ori
(National Correspondent)

## NATIONAL CORRESPONDENTS

National correspondents (NC's) to the IAS function as IAS contact persons and report on sedimentological activities in their respective countries. They are normally acting in four year periods and new correspondents are selected after each IAS congress. It is quite a time consuming process to assemble a new group of N.C.s'. Below follows, however, a list of the N.C.s' presently active. I have started to include telephone numbers and will essentially to this for all N.C.s'. Most of them are new, following the Canberra Congress, but you have already seen reports from several of them in the Newsletter. If any of the addresses are incomplete or wrong I would like to receive corrections as soon as possible so that I can bring the correct address in the next newsletter.

If you need information about IAS do not hesitate to contact your N.C. All information, complaints etc concerning non-receival of Sedimentology or IAS Special Publications, financial matters etc should, however, be addressed to IAS treasurer Poppe de Boer.

Finn Surlyk

Dr. Luis B. Cazau, Calle 508 n° 2634 Gonnet., 1900 La Plata (B.A.), ARGENTINA

Dr. R. Brandner, Institut für Geologie und Paläontologie, Innrain 50, A-6020 Innsbruck, AUSTRIA

Dr. A. G. Plint, Department of Geology, University of western Ontario, London, Ontario N6A 5B7, tlf (519) 661-3179, CANADA

Dr. Zheng Zhi, Inst. of Geological and Mineral Deposits, Chinese Academy of Geological Sciences, 534 East Zhongshan Road, Baiwanzhuan, CHINA (People's Republic of China)

Dr. Henrik Olsen, Grønlands Geologiske Undersøgelse, Øster Voldgade 10, DK-1350 København K, DENMARK

Dr. Mahmoud M. Kholief, Chief Exploration Department, Egyptian Petroleum Research Institute, Nars City, Cairo, EGYPT

Dr. M.J. O'Sullivan, 9, Bolster TCE, Mallow, Co - Cork, EIRE

Dr. Gill M. Harwood, Department of Geology, The University of Newcastle upon Tyne, Newcastle upon Tyne, NE1 7RU, ENGLAND

Dr. Th. Bechstädt, Geologisch - palaontologisches Institut der Universität, Albertstrasse 23B, D-78 Freiburg i.BR., F.R.G.

Dr. A. Arnaud, Institut Dolomieu, Rue Maurice Gignoux, 38031 Grenoble Cédex, Départment de l'Isère, FRANCE

Dr. V. Raiverman, D.G.M. (Geology), Research Development Division, KDM, IPE, Kaulagarh Road, Dehradun 248 185 (U.P.), INDIA

Dr. R. P. Koesoemadinata, Departemen Teknik Geologi, Instituto Teknologi Bandung, Jl. Ganesha 10, Bandung, INDONESIA

Dr. Ali Ali Jawad, Department of Geology, College of Sciences, University of Baghdad, Adhamyia, IRAQ

Dr. Amihai Sneh, The Geological Survey of Israel, 30 Malkhe Ysrael St, Jerusalem 95501, ISRAEL

Dr. Gian Gabriele Ori, Universita di Bologna, Instituto di Geologia e Paleontologia, Via Zamboni 67, 40127 Bologna, ITALY

Dr. Ryuji Tada, Dept. of Geology, University of Tokyo, 7-3-1 Hongo, Bunkyo-ku, Tokyo 113, JAPAN

Dr. Nik Ramli, Petronas Laboratory, Lot 1026 PKNS, Industrial estate, 54200, Ulu Klang, Selangor, MALAYSIA

Ms. Naima Hamouni, Département de Géologie, Faculté des Sciences, B.P. 1014, Rabat, MOROCCO

Dr. W.J.E. van der Graaff, c/o Shell Research Laboratory, KSEPL, Volmerlaan 4, Rijswijk, THE NETHERLANDS

Dr. B.D. Field, New Zealand Geological Survey, c/o University of Canterbury, Private Bag, Christchurch, NEW ZEALAND

Dr. C.S. Nwajide, Geological Survey of Nigeria, Kaduna, Kaduna State, NIGERIA

Dr. S.-L. Røe, Universitetet i Bergen, Geologisk Institutt Avd. A, Allegt. 41, N-5014 Bergen, NORWAY

Dr. T. Peryt, Instytut Geologiczny, ul. Rakowiecka 4, 00-975 Warszawa, POLAND

Dr. R.F. Tucker, Anglovaal Limited, 77 Fox Street, Johannesburg 2001, SOUTH AFRICA

Dr. Sung Kwun Chough, Department of Oceanography, College of Natural Sciences, Seoul National University, Seoul 151, SOUTH KOREA

Dr. D. Obrador, Depto. de Estratigraphia y Geologia Historica, Facultad de Ciencias, Universidad Autonoma, Bellaterra - Barcelona, SPAIN

Dr. André Strasser, Department of Geology and Palaeontology, University of Geneva, 13, rue des Maraîchers, CH-1211 Geneva 4, SWITZERLAND

Dr. Mohamed Hédi Negra, Unite de Geologie, Faculté des Sciences, Université de Tunis, Campus Universitaire, 1060 Tunis, TUNESIA

Dr. Toeman Norman, Department of Geological Eng., Middle East Technical University, (O.D.T.U.), Eskisehir yolu/, Ankara, TURKEY

Dr. Gail M. Ashley, Department of Geological Sciences, Rutgers - The State University of New Jersey, New Brunswick, New Jersey, 08901, tlf. (201) 932-2221, U.S.A.

Dr. Vladimir Kholodov, Geological Institute of USSR, Academy of Science, Pyzhevsky per. 7, 109017 Moscow Zh-17, U.S.S.R.

Dr. Ljubo Babic, Geolosko-paleontoloski zavod, PMF, Soc. revolucija 8, 41000 Zagreb, YUGOSLAVIA

## I.A.S. FRIENDSHIP SCHEME

I am pleased to announce that we are starting to receive money transfers for the friendship scheme. In several cases a name of a person is not mentioned but only a region or a question if we know somebody. This is not an easy task for us because in most cases we do not know any sedimentologists in the suggested region so please indicate the name of the person you want to support via the friendship scheme. I have tried in a few instances to contact colleagues who have been working in the region to get their advice. Another possibility is to contact the national correspondent in the country or in an adjacent country and ask them to help us. If any IAS members have ideas which can help us please do not hesitate to drop me or Poppe de Boer a line.

Finn Surlyk

## FUTURE MEETINGS

February 19-20, 1988 KOREA (Seoul)

SEDIMENTARY BASINS IN THE KOREAN PENINSULA:
SEDIMENTOLOGY AND TECTONIC SETTINGS

Contact: Dr. S.K. Chough, Department of Oceanography, Seoul National University, Seoul 151, Korea.

March 1-2, 1988 U.K. (London)

THE QUANTIFICATION OF SEDIMENT BODY GEOMETRIES
AND THEIR INTERNAL HETEROGENEITIES

Contact: Dr. Mike Mayall, Sedimentology Branch, B.P., Britannic House, Moor Lane, London EC2Y 98U, or Dr. Tim Astin, Geology Dept., The University, P.O. Box 227, Whiteknights, Reading RG6 2AB, U.K.

March 17-18, 1988 U.K. (Cambridge)

CLAY MINERAL DIAGENESIS IN HYDROCARBON RESERVOIRS AND SHALES

Contact: Dr. Chris V. Jeans, Dept. of Applied Biology, Pembroke Street, Cambridge CB2 3DX, U.K.

April 5-6, 1988 U.K. (London)

STRUCTURAL AND SEDIMENTARY EVOLUTIONS OF THE NEOTECTONIC
AEGEAN BASINS

Contact: Mr. Richard Collier or Dr. Mike Leeder, Dept. of Earth Sciences, The University, Leeds LS2 9JT, England.

April 22, 1988 U.S.A. (Akron, Ohio)

SEDIMENTARY IRON ACCUMULATION THROUGH GEOLOGIC TIME

A symposium sponsored by the Great Lakes Section of the S.E.P.M.

Contact: Dr. Annabelle Foos, Department of Geology, University of Akron, Ohio 44325, U.S.A.

The symposium is a full-day session to be held,in conjunction with the annual meeting of the North Central Section of the Geological Society of America and will devote one half day to Phanerozoic deposits ('ironstones') and one half day to Precambrian deposits ('iron formations').

May 11-20, 1988 BRAZIL (São Paulo)

VI INTERNATIONAL CONGRESS OF ICSOBA

(International committee for the study of bauxite, alumina and aluminium clay)

Contact: Prof. A.J. Melfi, Instituto Astronomico e Geofisico. Caixa Postal 30.627. 01051 - São Paulo, Brazil.

July 18-20, 1988 WEST GERMANY (Marburg)

FIRST INTERNATIONAL CONFERENCE ON RADIOLARIA

Contact: Prof. Dr. R. Schmidt-Effing, Interrad-Conference, Department of Geosciences, D-3550 Marburg, West Germany (F.R.G.) U.S.A. contact: Dr. Joyce R. Blueford, U.S. Geological Survey, 345 Middlefield Road 144, Menlo Park, Calif., U.S.A., phone 415-329-4004.

July 30 - August 4, 1988 CHINA (Beijing)

SEDIMENTOLOGY OF MINERAL DEPOSITS

Contact: Dr. Wang Shousong, IAS Symposium on the Sedimentology of mineral deposits, c/o Institute of Geology, Academia Sinica, P.O. Box 634, Beijing, China, teleph. 445913, telegr. Beijing 6347.

August 1-5, 1988 ARGENTINA (Buenos Aires)

Second Argentine meeting on Sedimentology

Contact: Dr. Renato Andreis, Facultad de Ciencias Exactas y Naturales (UBA). Dto. Geologia, Pabellon 2. Ciudad Universitaria 1428, Capital Federal, Argentina.

August 21-24, 1988 U.S.A. (Columbus, Ohio)

5th Annual mid-year meeting of the SEPM

Contact: Jeanne Couch, Meetings Coordinator, SEPM, P.O. Box 4756, Tulsa, OK 74159-0756, (918) 743-9765 U.S.A.

August 28 - September 3, 1988 U.S.A. (Crystal Mountain, WA)

VOLCANIC INFLUENCES ON TERRESTRIAL SEDIMENTATION

A Geological Society of America Penrose Conference

Contacts: Dr. G. A. Smith, Department of Geology, University of New Mexico, Albuquerque, NM 87131, U.S.A.
Dr. W. J. Fritz, Department of Geology, Georgia State University, Atlanta, GA 30303, U.S.A.

September 12-14, 1988 BELGIUM (Leuven)

9th IAS REGIONAL MEETING

Contact: Secretary, 9th IAS Regional Meeting, Redingenstraat 16, B-3000 Leuven, Belgium.

September 14-16, 1988 CANADA (Calgary)

SEQUENCES, STRATIGRAPHY AND SEDIMENTOLOGY:
SURFACE AND SUBSURFACE

Core displays, field trips, posters and technical presentations. Calgary, Alberta.

Contact: Dale Leckie, Geological Survey of Canada, 3303-33rd Street N.W., Calgary, Alberta, Canada, T2L 2A7, teleph. (403) 284-0349, or David James, Esso Resources Canada, 1883, 237 4th Avenue S.W., Calgary, Alberta, Canada, T2P OH6, teleph. (403) 237-2468.

September 19-23, 1988 GREECE (Athens)

ENGINEERING GEOLOGY AS RELATED TO THE STUDY,
PRESERVATION AND PROTECTION OF ANCIENT WORKS,
MONUMENTS AND HISTORICAL SITES

Contact: Greek Committee of Engineering Geology, 1988 Symposium Secretariat, P.O. Box 19140, GR - 11710 Athens, Greece.

October 1988 NORWAY (Bergen)

INTERNATIONAL GEOLOGY CONFERENCE
"CORRELATION IN HYDROCARBON EXPLORATION"
Principles, Practice and Problems

Contact: Ms. Elisabeth Holter, Norwegian Petroleum Society (NPF), P.O. Box 1897 - Vika, 0124 OSLO 1, Norway.

October 10-11, 1988 FRANCE (Marseille)

BIOSEDIMENTOLOGY

Contact: Jean Philip, Laboratoire de Stratigraphie et de Paléoécologie Université de Provence, 3 Place Victor Hugo, 13331 Marseille Cedex 3, FRANCE, teleph. 91-95-90-71.

October 31 - November 3, 1988 U.S.A. (Denver, Colorado)

GEOLOGICAL SOCIETY OF AMERICA

CENTENNIAL MEETING AND EXHIBIT

Contact: Kathy Ohmie, Geological Society of America, P.O. Box 9140, Boulder, CO 80301, U.S.A., teleph. (303) 447-2020.

November 21-26, 1988 ARGENTINA (Paraná)

THE HOLOCENE IN SOUTH AMERICA

Contact: Dr. Martin H. Iriondo, Casilla de Correo 487, 3100 Parená, Argentina.

December 19-22, 1988 U.K. (Cambridge)

B.S.R.G. ANNUAL MEETING

Contact: David Macdonald, British Antarctic Survey, High Cross, Madingley Road, Cambridge CB3 OET, U.K.

Easter, 1989 U.K. (London)

SEA LEVEL CHANGES AT ACTIVE PLATE MARGINS

Contact: David Macdonald, British Antarctic Survey, High Cross, Madingley Road, Cambridge CB3 OET, U.K.

July 9-19, 1989 U.S.A. (Washington, D.C.)

28th INTERNATIONAL GEOLOGICAL CONGRESS

Contact: International Geological Congress, P.O. Box 1001, Herndon, Virginia 22070, U.S.A.

August 21-24, 1989 CANADA (Calgary)

2nd INTERNATIONAL RESEARCH SYMPOSIUM ON CLASTIC TIDAL DEPOSITS

Contact: Dr. R. A. Rahmani, Canadian Hunter Exploration Ltd, 700, 435 - 4th Ave. S.W. Calgary, Alberta T2P 3A8, Canada.

August 28 - September 2, 1989 FRANCE (Strassbourg)

9th INTERNATIONAL CLAY CONFERENCE 1989

AIPEA

Contact: Secretary general Dr. H. Paquet, Institut de Géologie, 1, rue Blessig, 67084 Strassbourg, France.

September 10-16, 1989 U.K. (Cambridge)

THIRD INTERNATIONAL CONFERENCE ON PALAEOCEANOGRAPHY

Contact: Prof. I.N. McCave, Dept. of Earth Sciences, Downing Street, Cambridge CB2 3EQ, or Dr. N.J. Shackleton, Godwin Laboratory, Free School Lane, Cambridge CB2 3RS, U.K.

October 2-4, 1989 SPAIN (Barcelona)

FOURTH INTERNATIONAL CONFERENCE ON FLUVIAL SEDIMENTOLOGY

Contact: Dr. C. Puigdefabregas, Servei Geològic de Catalunya, carrer Diputació 92, 08015-Barcelona, Spain.

November 19-20, 1989 FRANCE (Paris)

1er Congres Francais de Sedimentologie

(French equivalent of B.S.R.G.)

Contact: I. Cojan, Secrétariat A.S.F., Ecole des Mines de Paris, 35 rue Saint-Honoré, 77305 Fontainebleau, France.