



# International Association of Geochemistry and Cosmochemistry NEWSLETTER

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Edited by G.M. Anderson

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SAMPLE

Comments from the President

On June 19, 1978, the Council of IAGC will meet in Liège, Belgium, the day before the opening of the IAGC-sponsored 22nd Liège Astrophysical Symposium: "The elements and their isotopes in the Universe". Because of the wide geographical distribution of the IAGC Council, it is expensive and logistically difficult to hold such Council meetings between General Assemblies. Our present weak financial base requires that officers and councilors find funds to support their travel. However, when the Council meets only at the General Assembly, the outgoing Council is reluctant to bind its successor, and the incoming Council is too new to know what to do. These interim meetings must become a regular and normal procedure if the Association is to become a truly effective international representative of our science.

Officers of the French organizing committee for the Paris 1980 International Geological Congress have invited IAGC to play an active role in organizing geochemistry sessions at that Congress. At Liège we will formulate plans to take advantage of this opportunity. In this and other ways we must make 1980 a target date for ensuring that IAGC is worthy of its international charter. Achievement of this goal will require that a larger fraction of the world's geochemists identify with IAGC, either through individual or corporate membership. We must also develop a larger core of active members who will provide the future leadership of the Association. It is also important that we construct stronger bonds to other elements of the international scientific hierarchy, to more local and national geochemical societies, and to sources of funds to support our activities. Please let me know of any ideas you may have for furtherance of these goals, either for consideration at the Liège meeting or later.

George W. Wetherill  
President

NOTICE OF COUNCIL MEETING

Members are hereby notified that the IAGC Council will meet in Liège, Belgium, on June 19, 1978, in conjunction with the Twenty-Second Liège International Astrophysical Symposium. Any IAGC-related matters which members are concerned about should be transmitted to a Council member.

TWENTY-SECOND LIÈGE ASTROPHYSICAL SYMPOSIUM

Liège, June 20-22, 1978

The Elements and Their Isotopes in the Universe

President: Professor A. Unsöld

PROGRAMME

The symposium will be divided into five non-parallel sections with original communications.

- INTRODUCTORY SURVEY, by A. UNSÖLD, Institut für Theoretische Physik und Sternwarte, Kiel, F.R.Germ.

SECTION I. Nuclear Astrophysics.

- Introductory Review, by W.A. FOWLER, California Institute of Technology, Pasadena, USA.

SECTION II. Abundances in the Solar System.

- a) Abundances of the Elements in the Sun
  - Introductory Report, by H. HOLWEGGER, Institut für Theoretische Physik und Sternwarte, Kiel, F.R.Germ.
- b) Abundances of the Elements in Meteorites and Planetary Systems
  - Introductory Report, by M. MAURETTE, Laboratoire René Bernas, Orsay, France.

SECTION III. Abundances in Individual Stars.

- a) Abundances in Cool Non-Evolved Stars
  - Introductory Report, by B.E.J. PAGEL, Royal Greenwich Observatory, Herstmonceux, England.
- b) Non-LTE Effects and Abundances in Hot Stars
  - Introductory Report, by R.P. KUDRITZKI, Institut für Theoretische Physik und Sternwarte, Kiel, F.R.Germ.

c) Abundances in Evolved Stars

- Introductory Report, by B. BASCHEK, Lehrstuhl für Theoretische Astrophysik, Heidelberg, F.R.Germ.

d) Changes in Abundances due to Non-Nuclear Mechanisms

- Introductory Report, by S. and G. VAUCLAIR, California Institute of Technology, Pasadena, USA, and Observatoire de Meudon, France.

SECTION IV. Abundances and Chemical Evolution of the Interstellar Medium.

- Introductory Report, by M. PEIMBERT, Institute de Astronomia, National University of Mexico, Mexico.

SECTION V. Abundances of the Elements in Galaxies.

- Introductory Report, by L. SEARLE, Hale Observatories, Pasadena, USA.

SCIENCE AT THE INTERNATIONAL LEVEL

A brief outline of the inter-relationships of international science organizations and where IAGC fits in.

ICSU

The highest international science body is the International Council of Scientific Unions.

The members of ICSU are of two types - Scientific Union Members, and National Members. National Members are scientific institutions such as academies and research councils in various countries. There are about 66 of these at present. The Scientific Union Members and their year of joining ICSU are as follows:

IAU	International Astronomical Union (1919)
IUGG	International Union of Geodesy and Geophysics (1919)
IUPAC	International Union of Pure and Applied Chemistry (1919)
URSI	International Union of Radio Science (1919)
IUPAP	International Union of Pure and Applied Physics (1922)
IUBS	International Union of Biological Sciences (1923)
IGU	International Geographical Union (1923)
IUCr	International Union of Crystallography (1947)
IUTAM	International Union of Theoretical and Applied Mechanics (1947)
IUHPS	International Union of the History and Philosophy of Science (1947)
IMU	International Mathematical Union (1952)
IUPS	International Union of Physiological Sciences (1955)
IUB	International Union of Biochemistry (1955)
IUGS	International Union of Geological Sciences (1961)
IUPAB	International Union for Pure and Applied Biophysics (1966)
IUNS	International Union of Nutritional Sciences (1968)
IUPhar	International Union of Pharmacology (1972)
IUIS	International Union of Immunological Science (1976)

The operations of ICSU are financed by dues paid by both types of members, plus funds from various inter-governmental organizations. The current officers are: President: F.B. Straub (Hungary); Vice President: C. de Jager (Netherlands); Secretary General: J. Kendrew (Great Britain); Treasurer: D.A. Bekoe (Ghana); Past President: H. Brown (U.S.A.). An Executive Board consists of the officers plus four ordinary members, two each from the Scientific Unions and the National Members. The General Committee of ICSU is made up of the Executive Board plus one representative from each of the Scientific Unions, plus (at present) twelve representatives of the National Members. The present IUGS representative on the ICSU General Committee is Prof. R. Trumphy of Switzerland.

This committee meets annually. The General Assembly, which consists of all members, meets biennially.

Some of the programs directly attributable to ICSU have been the International Geophysical Year, the Upper Mantle Project, the International Biological Program, and the Global Atmospheric Research Program.

ICSU supports a long list of programs and services, such as the Federation of Astronomical and Geophysical Services, the Scientific Committee on Oceanic Research, the Inter-Union Commission on Geodynamics, the Committee on Data for Science and Technology (CODATA), and the Scientific Committee on Problems of the Environment, to name only a few. It is also involved in many Inter-Organizational Relations of various types, such as the World Health Organization, the United Nations Educational, Scientific and Cultural Organization (UNESCO) and the International Atomic Energy Agency, again to name only a few.

#### IUGS

One of the member unions of ICSU is the International Union of Geological Sciences. The following information about IUGS is taken from their pamphlet - "IUGS-How it was born - What it is - How it works", known informally as "the Orange Booklet".

#### **IUGS - HOW IT WAS BORN**

The international importance of geology has been recognized for many years. To formally foster international co-operation, a group of geologists led by James Hall (USA) and T.H. Huxley (UK) founded the International Geological Congress (IGC), which was to become the most authoritative international forum for geologists. The Congress met for the first time in Paris in 1878 and then, with the exception of the periods during the two World Wars, at intervals of 3-4 years in various cities in all parts of the world.

Following the Congress sessions in Algiers (1952) and Mexico (1956) it was felt that the IGC, in spite of its outstanding usefulness was not the most suitable body (because it only exists for 10 days every four years) for taking action on international geological questions and for giving guidance for co-ordination of international research programmes in the field of geosciences.

This resulted at the 1960 session of the International Geological Congress in Copenhagen in a number of recommendations from various delegations (British, Dutch and Swiss) for creating an international Union of Geological Sciences. A special meeting was held the following year (1961) at UNESCO House in Paris to found the latecomer among the international Scientific Unions, which a few months later became a member of ICSU (International Council of Scientific Unions).

The IUGS Council, composed of one representative of each member country, met for the first time in Rome in 1963 and adopted statutes and bye-laws.

## IUGS - WHAT IT IS

The IUGS is a voluntary, non-profit-making organization, whose chief aims and objectives are:

- (a) to facilitate and encourage the study of problems pertaining to the geological sciences;
- (b) to facilitate international co-operation in geology and related sciences;
- (c) to provide continuity in international co-operation in geology and related sciences;
- (d) to assist the International Geological Congress, it being understood that the long established activities of the Congresses shall be safeguarded.

The governing body of IUGS is the Council. It is composed of one delegate per member country. The adhering bodies in the member countries are either National Committees for Geological Sciences, National Academies, Geological Surveys or other National Agencies which are concerned with fundamental and applied geology. It is important to stress that the above mentioned aims and objectives relate to the co-operation of geologists in their personal scientific capacity. The organization of IUGS is essentially non-governmental although adherence and financial support may be through governments in some countries. Any country in which co-ordinated geological research takes place can become a member of IUGS.

IUGS has now (1977) over 80 member countries and is one of the three largest international scientific unions.

## IUGS - HOW IT WORKS

The executive body of the IUGS is the Executive Committee, which comprises the President, the Past President, six to eight Vice Presidents representing as far as possible the various continents of the globe, the Secretary General, an Associate Secretary General and a Treasurer. A member of the Organizing Committee of the next session of the IGC is ex-officio a member of the Executive Committee. The Executive Committee meets annually and two or three times during the IGC meetings. The day-to-day work of the IUGS is carried out by the office of the Secretary General.

The research activities of IUGS are embodied in the Commissions, Committees and affiliated International Associations. Members of the Commissions and Committees are chosen amongst the world's leading experts and appointed by the Council after recommendation by National Committees or the Executive Committee. Commissions with their Sub-commissions, Regional Committees and Working Groups, are bodies which co-ordinate scientific research in the various disciplines of geological sciences covering both fundamental or academic and industrial or economic aspects. Committees are bodies which carry out organizational or methodological work in the fields of documentation, editing policies, geological data, geology teaching, history of geological sciences, etc. Much of the work of the Commissions and Committees is conducted by correspondence, but it is obviously necessary, for effective co-operation, to meet at intervals, preferably once in two years. To promote such meetings IUGS may grant travel and per diem allowances to the full members of these Commissions and Committees with the understanding that part of the expenses normally will be defrayed from home sources.

IUGS cooperates with other scientific unions in the Inter-Union Commission on Geodynamics (with IUGG) and the Inter-Union Commission for Studies of the Moon (with IAU and IUGG). It is also actively involved with UNESCO in the International Geological Correlation Programme.

IUGS is financed by payments from both classes of members and grants-in-aid from UNESCO through ICSU.

IUGS Has published a Geological Newsletter four times a year. This has just become a new geological journal called Episodes, which contains articles of general interest as well as news of the activities of IUGS bodies. The first issue contains the following articles: Episodes and Engravings: James Hutton and John Clerk, by Gordon Craig; Experimental Petrology at High Pressures and Temperatures, by P.J. Wyllie; China: A Pictorial Close-up, by J. Sutton; Plutonism in Japan and Korea, by P.C. Bateman; and The Roots of IUGS, by J.M. Harrison. Other publications of IUGS will be listed in future Newsletters.

The following IUGS Commissions and Committees are currently active:

Commission for Marine Geology  
Commission on Meteorites  
Commission on Stratigraphy (this commission contains  
a large number of subcommissions and working groups)  
Commission on Systematics in Petrology  
Commission on Experimental Petrology at High Pressures  
and Temperatures  
Commission on Tectonics

Committee on Geological Teaching  
Committee on Geological Documentation  
Committee on Storage, Automatic Processing and  
Retrieval of Geological Data  
Committee on the History of Geological Sciences  
Committee on Geoscience and Man  
Advisory Board for Publication

The following are IUGS Affiliated International Associations:

Association Internationale pour l'Etude des Argiles (AIPEA)  
Association des Services Géologiques Africains (ASGA)  
Commission for the Geological Map of the World (CGMW)  
European Association of Earth Science Editors (EDITERRA)  
International Association of Engineering Geology (IAEG)  
International Association of Geochemistry and Cosmochemistry (IAGC)  
International Association of Hydrogeologists (IAH)  
International Association for Mathematical Geology (IAMG)  
International Association of Planetology (IAP)  
International Association of Sedimentologists (IAS)  
International Federation of Societies of Economic Geologists (IFSEG)  
International Mineralogical Association (IMA)  
International Palaeontological Association (IPA)  
International Union for Quaternary Research (INQUA)

#### IGC

The beginnings of the International Geological Congress are outlined in the above section on the history of IUGS. It is largely completely independent of other organizations. Its only link with IUGS, for example, is that an IGC representative is an ex-officio member of IUGS Council.

#### IAGC

The first attempt to establish an international organization of geochemistry appears to have been the appointment, largely at the urging of Paul Nigli, of a Commission on Geochemistry in the International Union of Pure and Applied Chemistry in 1953. Several meetings and Symposia were held in the late 1950's. By the early 1960's, members of the commission began to feel that they might be more naturally affiliated with a geological organization, such as IUGS or IUGG.

When IUGS met in New Delhi in 1964, a meeting was held to discuss the formation of an international organization of geochemistry. It was attended by 47 participants. A committee to draft statutes was named, but no decision as to joining IUGS or IUGG was made. Following this, a meeting was held at UNESCO headquarters in Paris in November 1965 consisting of Ingerson, Ahrens, Fornaseri, Roubault, Vincent and Sugawara, plus the IUGS Secretary-General and a UNESCO official as observers. At this meeting the name of the Association was decided, temporary officers and Council were elected, and affiliation with IUGS was decided upon.

The first official Council meeting of IAGC was held at UNESCO headquarters in May 1967, in conjunction with the first International Symposium on the Origin and Distribution of the Elements. At this time the annual dues were established, several working groups were organized, steps were taken to publicize the association, and future symposia were planned. Since then several international symposiums have been sponsored and many publications have resulted. A more detailed account of the origins of IAGC and a list of its publications are available from the Secretary.

As noted above, IAGC is affiliated with IUGS, which is in turn a member of ICSU. It is also an Associated Organization to IUPAC, the International Union of Pure and Applied Chemistry. However, these relationships have in the past meant very little. IUGS requests an annual report once a year, but IAGC pays no money to IUGS and has no vote in IUGS affairs. The new Secretary General of IUGS has some plans to change the nature of the IUGS-Affiliated Society relationship, and reports on these ideas will appear in this Newsletter as they mature.

One of the main problems that has beset IAGC in the past has been a lack of internal communication. One of the more serious manifestations of this is a general lack of understanding as to how the officers get elected. According to the statutes, the Council is to prepare a list of nominations for officers and Council members, and send the list to all Corporate Members at least 90 days before a General Assembly meeting. Additional nominations may be made by 15 or more individual members up to 60 days before the meeting. Then at the General Assembly, election of officers and Council is by majority vote. Note that only Corporate Members have a vote.

In the past, the Council has prepared its list by selecting a nominating committee, and using the names suggested by this committee as a basis for selecting names to be presented to the voting members. This process has not been well publicized, mainly due to irregular publication of the Newsletter. The nominating and electing process is due for discussion at the forthcoming Council meeting. It seems likely that Council will seek members willing to serve on a nominating committee. The members of the committee will then be announced in the Newsletter so that all members will be able to suggest candidates if they wish.

As noted above, only Corporate Members can vote at the General Assembly. This raises the question as to the role played by individual members, and indeed whether IAGC should have individual members. Although opinion has been divided on this point, IAGC has always had individual members. They have input through the Commissions and Working Groups of the Association, as well as through the National Committees of the Corporate Members.



TREASURER'S REPORT

The following balance sheet was prepared by R.A. Binns from records provided by J.F. Lovering.

INTERNATIONAL ASSOCIATION OF GEOCHEMISTRY  
AND COSMOCHEMISTRY

FINANCIAL STATEMENT FROM 14 AUGUST 1976 to 22 JULY 1977

BALANCE BROUGHT FORWARD as shown \$ 11,116.56  
on statement from 1 July 1975  
to 13 August 1976

RECEIPTS

Membership subscriptions	\$ 1750.89	
Interest	301.84	
	<u>2052.73</u>	<u>13,169.29</u>

PAYMENTS

Treasurer: Postage	173.68	
: Copying	36.45	
: Secretarial Assistance	590.00	
President: Travel, Paris		
Conference	462.38	
: Expenses, Paris		
Conference	192.91	
: Secretarial Assistance	138.71	
E. Ingerson: Newsletter No. 5	326.51	
: Newsletter No. 6	358.52	
: Tokyo Proceedings		
Volume	925.09	
F.R. Boyd: Expenses, 2nd Internat.		
Kimberlite Conference	1618.09	
H. de la Roche: Expenses, 2nd		
Internat. Symposium on Origin		
and Distribution of Elements,		
Paris	1618.09	
E.J. Underwood: Travel and expenses,		
London meeting 1978, Environmental		
Geochemistry and Health	908.35	
V. Shcherbina: Subsistence, Paris		
Conference	110.63	
Bank fee and adjustment for		
incorrect deposit	<u>22.99</u>	
	<u>7482.40</u>	

<u>BALANCE IN HAND</u> at 22 July 1977	<u>5685.89</u>	
as per bank statement	\$13,169.29	\$ <u>13,169.29</u>

MEMBERSHIP INFORMATION

The Corporate members of IAGC are presently as follows:

<u>Country</u>	<u>Category</u>	<u>Member</u>
Australia	B	Australian Academy of Science
Canada	B	Geological Survey of Canada
Czechoslovakia	**	Czechoslovakian National Committee
F.R. Germany	C	Deutsche Mineralogische Gessellschaft
Italy	A	Consiglio Nazionale Della Ricerche
Japan	D	Science Council of Japan
Netherlands	B	Royal Netherlands Academy of Sciences
Norway	A	Norges Geologiske Undersøkelse
South Africa	A	Council for Scientific and Industrial Research
Switzerland	A	Schweiz. Mineralogische und Petrographische Gesellschaft
USSR	B	Committee of Soviet Geologists
UK	D	The Royal Society
USA	F	National Academy of Sciences
	A	The Geochemical Society

We have Council Members from three countries (Hungary, New Zealand and France) which are not corporate members, and efforts are being made to have these countries join. In addition, letters have been sent to individuals in six more countries to explore the possibilities of those countries joining. Recently, the addresses of the 82 IUGS member organizations have become available, and we will be writing to many of these.

There are approximately 200 individual members (many of the 323 reported in the last Newsletter were found to have dropped out). We plan to circulate the membership lists of several national organizations for new members. Permission to circulate members of the Geochemical Society has already been obtained.

NEW JOURNALS

*ORGANIC GEOCHEMISTRY*

The first issue of Organic Geochemistry has appeared, and the second is being assembled. This journal is sponsored by IAGC. The editor is Irving A. Breger, U.S. Geological Survey, Reston, Virginia 22092, U.S.A. and the journal is published by Pergamon Press, Oxford, England.

*GEOSTANDARDS NEWSLETTER*

This journal is "devoted to the study and promotion of geochemical reference samples". It is published by the International Working Group of the Association Nationale de la Recherche Technique, 101 Ave. Raymond Poincare, 75116 Paris, France. Membership, which includes a subscription to the journal is 250 FF. The editor is Dr. K. Govindaraju, Centre de Recherches Petrographiques et Geochimiques, C.O. No. 1, 54500 Vandoures-les-Nancy, France. This journal is also sponsored by IAGC.

\* \* \* \* \*

It is a sad duty to report that

Alexei Ivanovich Tugarinov

member-correspondent of the Academy of Sciences of the USSR, Professor of the University and V.I. Vernadskyi Institute of Geochemistry and Analytical Chemistry, and long active in the affairs of IAGC, died suddenly on July 12th, 1977.

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COMMISSIONS AND WORKING GROUPS

I. Commission on Geochemistry of Natural Waters  
Interest Group on Water-Rock Interaction.

Chairman's Report of WRI-2

The Water-Rock Interaction sub-group, which is part of IAGC's Working Group on the Geochemistry of Natural Waters, recently concluded a most successful international symposium and field trip held August 17th-25th, 1977, in Strasbourg, France. This was their second triennial international symposium and was under the able guidance of Secretary-General Dr. Yves Tardy (formerly at Centre de Sedimentologie et de Geochimie de la Surface, Institut de Geologie, Universite Louis Pasteur de Strasbourg; now at Laboratoire de Geologie, Toulouse, France). The meeting was attended by 236 geoscientists from 30 countries, with the majority of members coming from France (80), U.S.A. (36), The Netherlands (12), U.S.S.R. (12), Canada (11) and Japan (10). It was particularly gratifying to the organizers to have representation from 4 African countries (Egypt, Ivory Coast, Kenya, Libya), 2 South American countries (Bolivia, Brazil), Israel, Iran, and Australia. The sessions were held in the hall of the new Conseil de l'Europe and it is unlikely that those attending will meet in more sumptuous surroundings for some time. Simultaneous translation, English/French, allowed effectively all delegates to hear the lectures in a familiar language. There were four sessions of unequal length, comprising talks related to Salts and Brines, Low Temperature Water-Rock Interaction, Experimental and Theoretical Water-Rock Interaction, and High Temperature Water-Rock Interaction. The off-set printed proceedings of the symposium, edited by Dr. Helene Paquet and Dr. Yves Tardy, were available when the delegates arrived in Strasbourg. Evening entertainment arranged by the organizers included "Spectacle Son et Lumiere" at the beautiful and venerable Strasbourg Cathedral and a night boat tour of Strasbourg's illuminated canals.

The four-day field trip by motor coach criss-crossed the picturesque countryside of Alsace and the rugged, yet gentle Vosges mountains. About one hundred delegates visited a wide variety of mineral springs, thermal springs and the oil field waters at Pechelbronn, under the guidance of Dr. Claude Sittler and his assistants. Included was a tour of the Roman thermal springs at Plombieres and a modern mineral water bottling plant at Carola. One of the many highlights of the field trip was final dinner in the 15th century town hall of Kaysersberg -- complete, of course, with more than enough of that delectable wine of Alsace. The return to Strasbourg through the Vosges mountains included visits to the podzolic soils of Luspath and a field lysimeter site at Biffontaines near St. Die in Lorraine.

At the business meeting of the Water-Rock Interaction sub-group, Dr. Brian Hitchon (Alberta Research Council, Edmonton, Alberta, Canada) was re-elected Chairman and Dr. Tomas Paces (Geological Survey of Prague,

Czechoslovakia was re-elected Vice-Chairman and Secretary for International Cooperation. They will continue in office until the next business meeting, due to be held in Edmonton, Alberta, Canada, when WRI-3 will convene there in the summer of 1980.

The Water-Rock Interaction sub-group effectively doubled its membership between 1974, when WRI-1 was held in Prague, Czechoslovakia, and 1977, when WRI-2 took place in Strasbourg, France, and the current membership following the interest generated by WRI-2 is now 562. Members come from 40 countries and are kept informed of matters of interest through the chairmen of the ten interest groups which form the backbone of the organization and a world-wide network of national contacts. However, it is the triennial international symposia which allow the members that personal contact so necessary for a viable, active organization -- and the two Secretary-General's for WRI-1 and WRI-2 (Dr. Tomas Paces and Dr. Yves Tardy, respectively), accordingly, deserve much of the credit for starting off the Water-Rock Interaction sub-group on such a good foundation. All who attended WRI-1 and WRI-2 completely endorse this statement. Membership is open to all interested in water-rock interaction; there are no fees to pay, and more information may be obtained from the Chairman (Dr. Brian Hitchon, Alberta Research Council, 11315-87th Avenue, Edmonton, Alberta, Canada, T6G 2C2).

## II. Working Group on Laterites and Laterization

The idea of creating a working group entitled "Geochemistry of supergene cycles in humid tropical climates: Laterites and Laterization" occurred during an international geochemistry symposium in Patna, India in February 1973. It was approved by the executive of IAGC at Houston, Texas in March 1973.

The aims of the group are the promoting and coordinating at the international level of studies directed towards the understanding of the geochemical evolution of laterization profiles.

A meeting of the group, headed by Dr. Juan Goni, at the IAGC Congress in Paris in May, 1977, was held with representatives from Africa, India and Brazil. The meeting was coordinated by UNESCO, the Bureau de Recherches Geologiques et Minieres at Orleans, and the Czechoslovakian Geological Survey.

A field conference was then held at Onagadougou in Upper Volta to examine some laterite occurrences and to further define the activities of the group. One of the principle aims is to facilitate the transfer of technology from developed countries (Germany, Czechoslovakia, France) to countries having laterite deposits they wish developed or explored.

A report and research proposal for the group dated October 1977 has been prepared by Dr. Goni and copies are available to those interested from him. His address appears on the Newsletter title page.

### III. Working Group on the Geochemistry of Health and Disease

#### Chairman's Report

This group was set up in 1972 with Dr. E.J. Underwood as Chairman and with the attached membership. Attempts to widen the membership geographically by the inclusion of suitable individuals from South American countries were unsuccessful. Initial activities of the Working Group focussed upon the need for a mutual exchange of information and ideas on geochemical aspects of health and disease among scientific institutions and individual scientists in different countries. It soon became apparent that such exchange by correspondence only was unrewarding and attention was turned to the desirability of holding a meeting of members in London or Paris. Unfortunately all efforts to secure financial support for such a meeting were unsuccessful. However, a two-day discussion meeting on Environmental Geochemistry and Health has been organized, following an invitation from the Royal Society, by Professor John Webb and Dr. Stan Bowie to be held in London on March 15, and 16, 1978. Several members of the Working Group of I.A.G.C. will be attending the meeting in London and plans are being made for this Working Group to meet for a day, immediately after the London Symposium. It is hoped that such a meeting will enable the Working Group to fulfil some of its international objectives and stimulate studies on the geochemistry of health and disease in different countries.

E.J. Underwood  
Chairman

### IV. Membership of Working Groups and Commissions

Beginning with this issue, a start will be made at listing the names and addresses of all members of working groups in the Newsletter.

#### Commission on Geochemistry of Natural Waters

Chairman : Prof. M.G. Valyashko  
Department of Geochemistry  
Moscow State University  
Moscow V-234 U.S.S.R.

#### Interest Group on Water-Rock Interaction:

Chairman: Dr. Brian Hitchon,  
Alberta Research Council  
11315 - 87th Avenue  
Edmonton, Alberta  
Canada T6G 2C2

Vice-Chairman, and Secretary  
for International Cooperation:  
Dr. Tomas Paces  
Geological Survey  
Malostranske nam. 19  
11821 Praha 1, Czechoslovakia

Interest Group Chairmen: Executive

Interest Group 1. Dilute water-rock interaction, low temperature

Dr. Emanuel Mazor  
Isotope Department  
Weizmann Institute of Science  
Rehovet, Israel

Interest Group 2. Diagenetic reactions, saline environments, low to moderate temperatures.

Dr. W.M. Edmunds  
Hydrogeological Department  
Institute of Geological Sciences  
MacLean Building  
Crowmarsh Gifford  
Wallingford, Oxfordshire  
OX10 8BB

Interest Group 3. Metamorphic environments

Dr. Yotaro Seki  
Department of Foundation Engineering  
Saitama University  
Urawa 338, Japan

Interest Group 4. Magmatic environments

Professor S. I. Naboko  
Institute of Volcanology  
Pobeda Ave., 19  
Petropavlovsk-Kamchatskii  
U. S. S. R.

Interest Group 5. Active geothermal systems

Dr. A. J. Ellis  
Chemistry Division  
D.S.I.R.  
Petone, New Zealand

Interest Group 6. Experimental water-rock reactions, low to moderate temperatures and pressures

Dr. Robert O. Fournier  
U.S. Geological Survey  
345 Middlefield Road  
Menlo Park, California 94025 U.S.A.

Interest Group 7. Thermodynamic and computer approaches to fluid composition

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Interest Group 8. Reaction rates and kinetics

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Interest Group 9. Membrane phenomena in natural systems

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Interest Group 10. Solution-mineral interaction in soil genesis

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Professor K.H. Wedepohl,  
Geochemisches Institut  
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Gottingen, West Germany

#### NEWS OF INTERNATIONAL ORGANIZATIONS

##### I U G S - International Union of Geological Sciences

The new Secretary General of IUGS is Dr. W.W. Hutchison, Geological Survey of Canada, 601 Booth St., Ottawa, Canada, K1A 0E8 (613-995-4927).

##### I G C - International Geological Congress

The first circular for the 26th IGC is now available. It is to be held in Paris, July 7-17, 1980. Important closing dates are as follows:

April 1, 1978: For the return of the questionnaires contained in the first circular. (Note - the first circular is dated October 1977 but did not arrive until March 1978. Possibly the April 1 deadline will be extended.)

October 1, 1978: For the return of the program of Scientific Organizations to be included in the second circular.

December 1, 1979: For the return of abstracts of papers.

February 1, 1980: For paying the normal subscription and excursion fees.

I U P A C - International Union of Pure and Applied Chemistry.

Copies of the Statutes and By-laws of IUPAC have been received from the executive secretary, together with the information that IAGC continues in good standing as an Associated Organization to IUPAC. The status of Associated Organizations is reviewed by the IUPAC council every two years.

S E G H - The Society for Environmental Geochemistry and Health.

Some IAGC members might be interested in the activities of this society. The objective of the Society is "to further interest in and knowledge of the effects of the geochemical environment on the health and disease of plants and animals, including man, and to advance knowledge in this important scientific area, emphasizing a multidisciplinary approach." In keeping with this objective, SEGH publishes Interface, its newsletter, that contains annotated bibliographies, reports, scientific papers, publication and meeting announcements, and other features to support the foregoing objective.

Inquiries and membership applications should be directed to William L. Petrie, SEGH Membership Committee Chairman, NAS-NRC, 2101 Constitution Ave., Washington D.C. 20418, U. S. A.

#### RECENT PUBLICATIONS OF INTEREST

An interesting new report: Movement of selected metals, asbestos, and cyanide in soil: applications to waste disposal problems: U.S. Environmental Protection Agency Report No. 600/2-77-020, by W.H. Fuller, 243 pp. (April, 1977). The investigators found, perhaps surprisingly, that cyanide moves freely through several of the soils studied. Selenium and hexavalent chromium were also found to be mobile.

A development and discussion of the economics of monitoring the quality of ground water: Monitoring groundwater quality: economic framework and principles: NTIS Report No. PB-260 919, September, 1976, by General Electric Co., TEMPO, Santa Barbara, California, for Environmental Monitoring and Support Lab., Las Vegas, Nevada, 97 pp. (NTIS = Nat'l. Tech. Info. Service, U.S. Dept. of Commerce, Springfield, VA 22160).

A training manual on the techniques for chemical analysis of water pollutants is available from the EPA: Chemical analyses for water pollutants: Training manual: U.S. Environ. Prot. Agency Report No. EPA-430/1-75-013, by A.E. Kroner, available from NTIS as Report No. PB-261 260.

Ion Selective Electrode Methodology, A CRC Press "Uniscience" Title, Edited by A.K. Covington, F.R.I.C. Reader in Physical Chemistry, University of Newcastle, Approx. 250 pp., (Publication due early 1978), CRC Cleveland, Ohio 44128.

Microorganisms and Minerals, E.D. Weinberg, Ed., Marcel Dekker Inc., N.Y. 1978, 512 pp. \$44.50.

Projected Publication: Minerals in Soil Environments. Twenty-six chapters deal with general mineralogy, specific minerals, preparation of specimens, techniques of examination, and reactions of minerals. The book is designed as a graduate textbook for soil science students and soil scientists who do not work directly in soil mineral investigations. J.B. Dixon and S.B. Weed, Editors. SSSA hardcover publication.

Write: Book Promotion  
American Society of Agronomy  
677 South Segoe Road  
Madison, Wisconsin 53711

Environmental Chemistry. Edited by J. O'M. Bockris. Includes a chapter entitled Pollution through trace elements, by R. R. Brooks. 1976, \$49.50. Plenum Publishing Corporation, New York, 10011.

Proceedings of the VIIth International Congress of Organic Geochemistry (Dedicated to the memory of Dr. Treibs), approx. 900 pages.  
Cost: 8000 pesetas. Available from:

Revista Espanola de Micropaleontologia  
E.N.A.D.I.M.S.A.  
Servicio de Publicaciones  
Serrano, 116  
Madrid-6, Spain

Objectives, Concepts and Strategies for the Management of Radioactive Waste Arising from Nuclear Power Programmes (September 1977): Survey of present and prospective situations concerning management of radioactive waste. Contains conclusions and recommendations for promoting national efforts and international cooperation in this field. (66 77 04 1) 176 pages - £8.50, \$17.50, F70,00

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No. II 1969	Technical Papers, Second Conference of Central American Geologists 88p. 36 fig.	US\$11.50
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No. IV 1973	Proceedings and Technical Papers, Third Conference of Central American Geologists 187p. 83 fig.	US\$22.50
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Note:	Papers in Spanish and English with abstracts in both languages.	
	Complete series	US\$95.00

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Available from: Instituto Centroamericano de Investigacion y  
Tecnologia Industrial (ICAITI)  
Apartado Postal 1552  
Guatemala Ciudad  
Guatemala, C. A.

Geologic Disposal of High-level Radioactive Wastes - Earth Science Perspectives. U.S. Geological Survey Circular 779, 15 pp., 1978.  
A summary of factors and processes that must be understood for the safe containment of high-level radioactive waste.

Recent Publications, Cont'd..

Proceedings of the International Congress on Thermal Waters,  
"Geothermal Energy and Vulcanism of the Mediterranean Area"

- Volume I      Geothermal Energy (530 pages)  
                 Price: \$10 including postage
- Volume II     Thermal Waters (600 pages)  
                 Price: \$12 including postage
- Volume III    Vulcanism (350 pages)  
                 Price: \$8 including postage

Orders should be sent to:

Prof. Dr. S.S. Augustithis  
NATIONAL TECHNICAL UNIVERSITY  
Department of Mineralogy - Petrology - Geology  
42, October 28th Street  
Athens T.T. 147, P.O. Box 1482  
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with payment in advance by cheque to:

Dr. Andreas Vgenopoulos  
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ATHENS, T.T. 147

DIRECTORY OF ISOTOPE GEOCHEMISTS

The IAGC - IAVCEI World Directory of Isotope Geochemists (1977) contains particulars of the broad research interests of, and standards used in isotope geochemical research in, about 160 laboratories/groups in 23 countries. Copies can be had at US\$2.00 (inclusive of airmail postage) or its equivalent Ind. Rupees, from Professor U. Aswathanarayana, Secretary, IAGC Working Group on Isotope Geochemistry, University of Saugar, Sagar, M.P. 47003, India.

MEETINGS

May 22-24, 1978 *Applications of Kalman filtering theory & technique to hydrology, hydraulics & water resources*, Chapman conference, Pittsburgh. (AGU Kalman Filtering Conference, 1909 K St. NW, Washington, D.C., 20006) by American Geophysical Union. Topics: Kalman filtering theory & technique: comparison with other estimators; computational techniques; applications to design of experiments & data-collection network; applications to water quality & environmental engineering studies; applications in rainfall-runoff system studies; applications in studies of transport processes in streams & rivers; applications in studies of ground-water problems.

May 22-25, 1978 *CODATA conference*, Taormina, Italy. (Codata Secretariat, 51 Boulevard de Montmorency, 75016 Paris, France).

May 29/June 1, 1978 *International Salt Symposium*, Hamburg, West Germany. (Werner Pinkernelle, 3000 Hannover 72, Gerdingstrasse 4C, West Germany).

June 2-7, 1978 *Water for human survival, 3 World Congress on Water Resources*, Sao Paulo, Brazil (Terceiro Congresso Mundial de Recursos Hidricos, Caixa Postal 9721, Sao Paulo, Brazil).

June 5-9, 1978 *Ground-water pollution by oil hydrocarbons*, symposium in Prague. (Stavebni geologie, n.p., Gorkeho n. 7, Praha 1, Czechoslovakia) By the Czechoslovak Committee of the International Association of Hydrogeologists.

June 13-16, 1978 *Trace substances in environmental health*, conference, University of Missouri, Columbia. (Delbert D. Hemphill, 411 Clark Hall, University of Missouri, Columbia, 65201).

June 19-23, 1978 *Isotope hydrology* symposium, in Neuherberg, Federal Republic of Germany. (Miss C. de Mol ivan Oterloo, Conference Service Section, Division of External Relations, International Atomic Energy Agency, Box 590, Kärntner Ring 11, A-1011 Vienna, Austria).

June 19-27, 1978 *11th Contres, International Society of Soil Science*, in Edmonton; field trips before & after, covering many parts of Canada. (11th ISSS Congress, Box 78, Sub. 11, University of Alberta, Edmonton, Alberta, T6G 2E0)

June 23-28, 1978 *Canadian Society of Petroleum Geologists, Theme: "Facts and Principles of World Oil and Gas Occurrences"*, Calgary, Alberta. For Details: J. Browning, General Chairman, International Symposim '78, c/o 612 Loughheed Bldg., Calgary, Alberta, T2P 1M7.

June 25-30, 1978 *A Penrose Conference on "SUBMARINE SLOPE, FAN, AND TRENCH SEDIMENTATION - NEW CONCEPTS AND PROBLEM SOLVING"* will be held in the French Maritime Alps. This event is sponsored by the Geological Society of America, Smithsonian Institution, and Ecole Nationale du Petrole et des Moteurs (Institut Francais du Petrole) in response to the rapidly growing interest in the rock record and in submarine slope, canyon, fan and trench deposits in modern oceans. For information, or to indicate your interest in attending, please write to the conveners: D.J. Stanley, Division of Sedimentology, E-109 NMNH, Smithsonian Institution, Washington, D.C. 20560 U.S.A., or J.P. Bertrand, Ecole Nationale du Petrole, 4 Avenue de Bois-Preau, B.P. 18, 92502-Rueil Malmaison, France. Application deadline is March 1, 1978.

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June 26-28, 1978 *Canadian Society of Petroleum Geologists Int. Conference*, Calgary, Alberta, & field trips to Alberta Foothills, Athabasca Tar Sands, Mackenzie Delta, & Arctic islands. (Paul A. Batson, Gulf Oil Canada Ltd., 707 7th Ave. SW, Calgary, T2P 2H7) (February '77).

July 9-14, 1978 *Tenth International Congress on Sedimentology*, Jerusalem, Israel Ten Symposia and thirteen field excursions are planned. Several of the symposia are of geochemical interest, for example, Sedimentary Basins and the Origin of Fossil Fuels; The effect of Human Activity on the Ecology and Sedimentation of Lakes and Reservoirs; Phosphorites; and Evaporites. Copies of the circular and other information is available from Secretariat, 10th International Congress on Sedimentology, P.O. Box 10271, Tel Aviv, Israel.

July 10-14, 1978 *Intl Clay Conference*, Oxford, England; field trips before & after. (James A. Bain, Institute of Geological Sciences, 67-78 Gray's Inn Road, London, WC1X8NG).

July 25-27, 1978 *Geothermal Resources Council*, ann. mtg., Hilo, Hawaii. (Beverly A. Hall, Geothermal Resources Council, Box 1033, Davis, Calif., 95616. 916/758-2360).

July 30/Aug. 2, 1978 *Soil Conservation Society of America*, mtg., Denver. (Larry D. Davis, Soil Conservation Society of America, 7515 Northeast Ankeny Rd., Ankeny, Iowa, 50021).

July 30/Aug. 5, 1978 *Circum-Pacific Energy & Mineral Resources Conference*, Honolulu. (AAPG headquarters, Box 979, Tulsa, 74101).

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Aug. 3-18, 1978 *Archean geochemistry*, field trip, Superior Geotraverse region, Ontario, and northern & central Minnesota. (A.M. Goodwin, Department of Geology, University of Toronto, Canada).

Aug. 7-25, 1978 *Intl Association on the Genesis of Ore Deposits mtgs.*, near Salt Lake City (Aug. 13-19); field trips before (in eastern & central states) & after (in Utah, Nevada, Colorado). (C.B. Sclar, Department of Geological Sciences, Williams Hall, Lehigh University, Bethlehem, Pa. 18015).

Aug. 16-19, 1978 *Glacier beds: the ice-rock Interface*, symposium in Ottawa (C.S.L. Ommanney, Glaciology Division, Environment Canada, Ottawa K1A 0E7).

Aug. 14-17, 1978 *41st Annual Meeting of the Meteoritical Society* is to be held this year at Laurentian University, Sudbury, Ontario. One or two field trips are planned. Hosted by Laurentian University and the Associated Committee on Meteorites of the National Research Council of Canada. Dr. M. Dence, Earth Physics Branch, Dept. of Energy, Mines and Resources, Ottawa, Ontario K1A 0Y3.

Aug. 20-26, 1978 *Fourth International Conference on Geochronology, Cosmochronology, and Isotope Geology*. Some of the topics under consideration for symposia are: "The Geologic Time Scale and Radioactive Decay Constants"; "Origin of the Nuclides"; and "Isotope Indicators in Earthquake Prediction". Field trips to Colorado, Yellowstone and California. Dr. Irving Friedman, U.S. Geological Survey, Federal Center, Box 25046, Denver, Colorado 80225.

Sept. 4-10, 1978 *International Mineralogical Association, Mtd.*, Novosibirsk, U.S.R. (N.V. Sobolev Jr., Institute of Geology & Geophysics, 630090 Novosibirsk-90).

Sept. 10-16, 1978 *Penrose Conference, "The Origin and Evolution of Granitic Magmas"*, Huntington Lake, California. For Details: Dallas L. Peck, U.S. Geological Survey, Mail Stop 951, Reston, Virginia 22092, U.S.A.

Oct. 9-12, 1978 *4th International Congress for the Study of Bauxites, Alumina and Aluminum*. Congress organized by ICSOBA (International Committee for the Study of Bauxites, Alumina and Aluminum) and the Mineralogy-Petrography-Geology Department of the National Technical University of Athens under the sponsorship of the Ministry of Culture and Sciences of Greece. Field trips to the most important bauxite mining areas of Greece will be organized. Subscription fee \$80. Registration by April 30, papers by June 15, 1978. All correspondence to Prof. S.S. Augustithis, International Congress of ICSOBA, National Technical University, Dept. of Mineralogy-Petrography-Geology, P.O. Box 1006, Athens, Greece.

Oct. 23-25, 1978 *Geological Society of America & associated societies*, ann. mts. of Geological Association of Canada and Mineralogical Association of Canada, in Toronto (Fred Handy, GSA headquarters, 3300 Penrose Place, Boulder, Colo., 80301; P.M. Kavanagh, Box 4170, Postal Station 'A', Toronto, M5W 1T2).

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April 2-7, 1979 *International ophiolite symposium*, Nicosia, Cyprus, & field trips to Troodos complex & environs. (Secretary, Ophiolite Symposium, Geological Survey Department, Nicosia, Cyprus) By the Republic of Cyprus and International Association of Volcanology & Chemistry of the Earth's Interior. Abstracts deadline: Oct. 31, 1978.

August 26-31, 1979 *Fourth International Symposium on Environmental Biogeochemistry*. First Circular available from Conference Secretary, Australian Academy of Science, P.O. Box 783, Canberra City, A.C.T. 2601, Australia.

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# International Association of Geochemistry and Cosmochemistry

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Membership in the Association is open to individuals who are interested in any aspect of pure or applied geochemistry (Statutes of the Association, Section I.C.2). Dues are \$3.00 U.S. per annum. The application, together with \$3.00, or the equivalent, should be sent to the Treasurer:

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