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IAGC NEWSLETTER - No. 5, SEPTEMBER, 1976

The fact that no IAGC Newsletter has appeared since No. 4 was issued in March, 1974, should not be taken as an indication that the Association has not been active. Since that time the IAGC has been involved in five international symposia and five others are planned for the next two years.

IAGC has been the primary sponsor and moving spirit in eight of the ten meetings. All ten are described below. For the symposia already held scope, sponsorship, time and place of meeting, plans for publication of the papers, etc., are indicated. For the future symposia about the same information is given, with the name(s) and address(es) of a person or persons to whom requests for further information can be addressed.

XXV INTERNATIONAL GEOLOGICAL CONGRESS - AUSTRALIA, AUGUST, 1976.

Regularly scheduled meetings of the Council and General Assembly of IAGC coincide with the quadrennial sessions of the International Geological Congress. For the Australian meetings, however, it appeared that it would be difficult, if not impossible, to have a quorum of the Council present.

That body voted by mail, therefore, to cancel the meetings in Australia and to hold them instead at the time of the Second International Symposium on the Origin and Distribution of the Elements to be held at Unesco Headquarters, Paris, May 10-13, 1977.

Unfortunately, the news did not get to the National Corporate Members of IAGC in time and several of them sent representatives expecting to attend meetings of IAGC. These, and other individuals, held two "rump sessions" at the times and places that had been reserved for meetings of IAGC. These sessions produced a memorandum to IAGC which, hopefully, will result in greatly improved communications between IAGC and both its corporate and individual members.

IAGC-SPONSORED SYMPOSIA RECENTLY HELD

INTERNATIONAL SYMPOSIUM ON WATER-ROCK INTERACTION

PRAGUE, CZECHOSLOVAKIA, SEPTEMBER 9-17, 1974.

1. Scope. The symposium was initiated by a general session with papers by six invited lecturers. This was followed by six technical sessions on the following topics:

- a. Criteria for distinguishing thermal and mineral waters of different origins.
- b. Dilute water-rock interactions at near-surface temperatures.
- c. Experimental water-rock interactions.
- d. Models and kinetics of water-rock interactions.
- e. Geochemical behavior of interstitial (saline) waters in sedimentary rocks.
- f. Active geothermal systems.

2. Sponsorship. UNESCO co-sponsored the symposium and made a generous subvention to aid invited participants with travel expenses. The Geological Survey of Czechoslovakia and the International Association of Geochemistry and Cosmochemistry organized the symposium and also served as co-sponsors. The able Secretary General of the symposium was:

✓ Dr. Tomas Pačes
Geological Survey Prague
Malostranske nam. 19
Prague 1, Czechoslovakia

3. Program. There were 87 papers on the program. The sessions were attended by 148 scientists from 21 countries. One prominent participant pronounced this "the most successful international meeting he ever attended in establishing contacts between English- and Russian-speaking geochemists."

Following the meetings in Prague there was an equally successful four day field trip. Ninety six of the participants were on the trip, which visited seven localities of thermal and mineral waters in north-western Bohemia.

4. Contact. Copies of the field guide and information about the proceedings volume, which is in press at the Geological Survey, can be obtained from:

✓ Dr. J. Čadek
Secretary for Publications, WRI
Ústřední ústav geologický
Hradební 9
11015 Praha (Prague) 1
Czechoslovakia

INTERNATIONAL SYMPOSIUM ON THE ROLE OF GENESIS IN PROSPECTING FOR
ORE DEPOSITS, VARNA, BULGARIA, SEPTEMBER 15-OCTOBER 1, 1974.

1. Scope. Three topics were discussed at the above-mentioned symposium. These are:

- a. Factors controlling the vertical extent of ore deposition.
- b. Base metal (Cu, Pb, Zn) mineralization associated with volcanism (including minor intrusions).
- c. Significance of isotopic composition for genetic interpretation of ore deposits.

2. Sponsorship. The symposium was sponsored by and organized by the International Association on the Genesis of Ore Deposition (IAGOD) and co-sponsored by IAGC.

3. Organization. The symposium was handled by a Local Organizing Committee, of which Prof. B. Bogdanov served as Chairman. Information about the symposium and resulting publications can be obtained from:

✓ Prof. B. Bogdanov
Geological Institute of the
Bulgarian Academy of Science
36th Street, Block 2
Sofia, Bulgaria

or

✓ Prof. Mirko Vaneček
Secretary of IAGOD
Institute of Geological Sciences
Charles University
Albertov 6, Praha (Prague) 2
Czechoslovakia

SECOND INTERNATIONAL SYMPOSIUM ON ENVIRONMENTAL BIOGEOCHEMISTRY,

HAMILTON, ONTARIO, CANADA, APRIL 8-12, 1975.

1. Scope. The symposium was divided into five sections:

- a. The carbon cycle.
- b. Biogeochemical cycling of nitrogen.
- c. Biogeochemical cycling of sulfur and selenium.
- d. Biogeochemistry of metals in the environment.
- e. Studies on ecological mass balance.

2. Sponsorship and organization. The symposium was co-sponsored by the International Association of Geochemistry and Cosmochemistry, The Geochemical Society, the Canadian Society of Microbiologists, and UNESCO. A subvention in aid of travel by participants was made by UNESCO.

The symposium was organized by the Canada Centre for Inland Waters, Burlington. Dr. Jerome O. Nriagu, of the Centre, served as Conference Co-ordinator for the Organizing Committee.

The program consisted of 87 papers by 158 authors. Requests for additional information, including the volume of abstracts, should be directed to the Conference Co-ordinator:

✓ Dr. Jerome O. Nriagu
Canada Centre for Inland Waters
P. O. Box 5050
Burlington, Ontario
Canada L7R 4A6

3. Proceedings volumes. Forty-eight of the papers were published in two proceedings volumes, under the editorship of Dr. Nriagu:

Vol. 1 - "Carbon, nitrogen, phosphorus, sulfur and selenium cycles." 423 pages.

Vol. 2 - "Metals transfer and ecological mass balances." 374 pages.

These volumes can be ordered from the publisher:

Ann Arbor Science Publishers
P. O. Box 1425
Ann Arbor, Michigan 48106
USA

Each volume sells for \$18.75 separately; the two-volume set is \$29.50. At today's elevated prices this is a very reasonable 3.7¢ per page.

INTERNATIONAL SYMPOSIUM ON THE GEOCHEMISTRY OF NATURAL WATERS,

BURLINGTON, ONTARIO, CANADA, AUGUST 18-22, 1975.

1. Scope. Abstracts of 83 papers by 151 authors appeared in the final program. Many of the co-authors and some of the senior authors did not attend the symposium, but there were well over 100 participants from eighteen countries.

The sessions were divided into the following principal topics:

- a. Analytical methods.
- b. Interlaboratory comparisons.
- c. Geochemical and mathematical models of surface water systems.
- d. Geochemical and mathematical models of ground water systems.
- e. Unpolluted waters.

2. Sponsorship. The symposium was organized at the Canada Centre for Inland Waters by IAGC and IAHS and held at the Centre August 18-22, 1975. The Centre contributed a great deal to the symposium in services of many kinds. The United States Geological Survey co-sponsored the symposium and made a very generous grant to IAGC to support the travel of invited participants to the meetings.

3. Field trip. There was a pre-symposium field trip, August 11-16, which started at Hamilton, Ontario, and went by way of Manitoulin Island to Sault Ste. Marie and returned by way of Elliot Lake and Sudbury.

4. Organization. The symposium was arranged by a very efficient Local Committee, chaired by Dr. M. E. Thompson, of CCIW. There are no plans to publish a proceedings volume, but participants were encouraged to submit their papers promptly for publication in appropriate journals dealing with hydrology, geochemistry, environment, analytical techniques, etc.

Information about the abstract volume, publication plans of special interest, etc., can be requested of:

✓
Dr. Mary E. Thompson
Canada Centre for Inland Waters
P. O. Box 5050
Burlington, Ontario L7R 4A6
Canada

INTERNATIONAL SYMPOSIUM ON INTERACTION BETWEEN WATER AND

LIVING MATTER, ODESSA, USSR, OCTOBER 6-10, 1975.

1. Scope. Eighty-four papers by 102 participants from 15 countries were presented before the symposium. Total attendance

was approximately 150 scientists. Subjectwise, the papers were divided into eight groups:

- a. The components of natural waters controlled and produced by living matter.
- b. The concentration function of living matter in reservoirs.
- c. The transforming, oxidizing and mineralizing role of living matter in reservoirs.
- d. Impoverishment and removal of the chemical components of natural waters by living matter.
- e. The change of physical properties of natural waters by living matter. The role of physical factors in the change of biological water properties.
- f. The enrichment of natural waters by the vital activity products; ecological metabolism in reservoirs.
- g. Natural waters and living matter under conditions of the noosphere.
- h. Chemical ecology of reservoirs.

2. Sponsorship. The symposium was co-sponsored by IAGC; Academy of Sciences, USSR; Academy of Sciences, UKSSR; and the Institute of Biology of the South Seas, Odessa. UNESCO also served as a co-sponsor and provided a generous subvention to aid invited participants with travel expenses.

3. Organization; proceedings. The symposium was organized under the chairmanship of Prof. G. G. Polikarpov; Prof. E. V. Krasnov is editing the two volume Proceedings of the symposium. Information about the meetings and the volumes can be requested from either of these gentlemen:

✓ Prof. G. G. Polikarpov
Inst. of Biology of the South Seas
2 Nakhimov Prospekt
Sevastopol 335000, USSR

✓ Prof. E. V. Krasnov
Inst. of Biology of the Seas
or Vladivostok, USSR

INTERNATIONAL SYMPOSIUM ON CARBONATITES,

POÇOS DE CALDAS, BRAZIL, JUNE 20-28, 1976.

1. Scope. The symposium discussed the geology, geochemistry, metallogenesis, and exploration of carbonatites.

2. Sponsorship. The symposium was co-sponsored by IAGC, the Sociedade Brasileira de Geologia, UNESCO, the Brazilian Academy of Sciences, and the National Research Council of Brazil (CNPq).

3. Organization. The Organizing Committee was under the able direction of Prof. J. R. de Andrade Ramos. Requests for information

about the program, guidebooks, proceedings volumes, etc., should be directed to him at the following address:

✓ Prof. J. R. de Andrade Ramos
 Comissão Nacional de Energia Nuclear
 Rua Gal. Severiano, 90
 Rio de Janeiro, R.J.
 Brazil 20000

4. Field trips. Field trips were conducted to the following localities:

- a. The very interesting niobium-bearing carbonatite at Araxá and its unique on-the-site metallurgical reduction plant.
- b. The type locality of jacupirangite and its large associated carbonatite, which is worked largely for phosphate.
- c. The complex of alkalic rocks at Itatiaia.
- d. The Quadrilátero Ferrífero, Minas Gerais, containing the largest Precambrian iron and manganese deposits in Brazil.

5. Proceedings volume. This volume is in Preparation in Brazil. Information about it can be obtained from Prof. Andrade Ramos.

PLANNED IAGC-SPONSORED SYMPOSIA

THIRD INTERNATIONAL SYMPOSIUM ON ENVIRONMENTAL BIOGEOCHEMISTRY,

APRIL 4-9, 1977, BRAUNSCHWEIG, WEST GERMANY.

1. Scope. The symposium will serve as a forum for exchange of information and ideas among scientists working in the fields of biological, chemical, atmospheric, and geological approaches to questions of environmental biogeochemistry. A tentative list of topics to be considered includes:

- a. Biogeochemistry of some natural environments which enable interdisciplinary approaches and studies.
 - (1) Productivity, algal associations and early diagenesis of intertidal algal mat environments as a contribution to petroleum biogeochemistry.
 - (2) The sediment water interface.
 - (3) Biogeochemistry of waterlogged soils (and peat).
 - (4) Environmental cycles in arid soils.
 - (5) Environmental biogeochemistry and the protection of objects of art (buildings, statues, natural monuments).
- b. Methods and approaches.
 - (1) Stable isotopes as a tool in the study of biochemical cycles.
 - (2) Modern field methods and laboratory simulations for the study of energy and material flux in special environments.

(3) Methods in microbial ecology and biochemistry applicable to environmental studies.

c. Studies of microenvironments (particle-organism relations in sediment, soil and water).

2. Organization. A National Committee consisting of eleven distinguished West German scientists has been appointed to supervise the organization and holding of the symposium. An International (Advisory) Committee consisting of sixteen similarly qualified scientists from several different countries has also been appointed.

3. Time and place. The Third Symposium on Environmental Biogeochemistry will take place (most probably) from April 4-9, 1977, in Braunschweig, West Germany. It has not been finally decided whether it will be held in the laboratories of biotechnology or in the "Bundesanstalt für landwirtschaftliche Forschung" or in a congress center at Braunschweig.

4. Sponsorship. Initially, the Symposium is being sponsored by IAGC and the West German National Committee. It is hoped that other organizations will join the sponsorship. UNESCO was invited to do so. They co-sponsored the first two International Symposia on Environmental Biogeochemistry, furnishing funds to help with travel expenses of invited participants, but the funds of the appropriate division have been committed for this biennium and no subvention could be made. UNESCO will be invited to co-sponsor the symposium without financial support.

Funds are still needed and if any readers of the Newsletter can suggest where financial assistance might be obtained it will be greatly appreciated!

5. Contact. Prof. Dr. W. E. Krumbein is serving as Chairman of the Organizing Committee and Coordinator of the symposium. Requests for information, suggestions about the meetings, etc., should be sent to him. His address is:

✓ Prof. Dr. W. E. Krumbein
 Universität Oldenburg
 Postfach 943
 Oldenburg D 2900
 West Germany

SECOND INTERNATIONAL SYMPOSIUM ON THE ORIGIN AND DISTRIBUTION

OF THE ELEMENTS, PARIS, MAY 10-13, 1977.

Scope. The symposium has been expanded to nine sections, an increase of four over the first symposium on this subject, which was held in Paris in May, 1967. The nine sections are:

- a. Cosmochemistry.
- b. Planetology.
- c. Hydrosphere, Atmosphere.
- d. Distribution and behavior of trace elements.
- e. Geochemistry of the surface.
- f. Geochemistry of the oceanic and continental crust.
- g. Geochemistry of the upper mantle.
- h. Geochemistry and detection of mineral deposits.
- i. Geochemistry and health.

Papers favored are those which

- outline the progress of the past ten years,
- show that certain obstacles have been overcome while others remain or have made their appearance,
- underline the growing implications of geochemistry for our knowledge of mechanisms of formation of mineral concentrations, and for their discovery,
- draw attention to new fields.

2. Organization. An Organizing Committee has been formed under the joint chairmanship of:

✓ Dr. Hubert de la Roche
 Directeur du Centre de Recherches
 Petrographiques et Geochimiques
 15 Rue N.-D. des Pauvres
 Case Officielle No. 1
 56500 Vandoeuvre les Nancy
 France

✓ Dr. Juan Goni
 Adjoint au Directeur du Service
 Geologique National (B.R.G.M.)
 and Boite Postal 6009
 45018 Orleans CEDEX
 France

The secretariat is under the direction of:

✓ Mme. G. Protas
 Case Officielle No. 1
 54500-Vandoeuvre
 France

Copies of the First Circular, which has already been issued, and other routine information can be obtained from the Secretariat. Correspondence about presentation of papers and other technical matters can be directed to the Secretariat or to either of the co-chairmen of the Organizing Committee.

3. Time and place. The symposium will be held in the main auditorium at UNESCO Headquarters in Paris, May 10-13, 1977. The auditorium seats 500 people and there are facilities for translation from and into all of the official languages of UNESCO.

4. Sponsorship. The symposium is being sponsored and organized by IAGC. UNESCO is co-sponsoring the meeting and is generously supporting travel of invited participants with a rather substantial subvention to IAGC.

SECOND INTERNATIONAL SYMPOSIUM ON THE GEOCHEMISTRY OF NATURAL WATERS

The first international symposium on this subject (Burlington, Ontario, August, 1975) was so successful that at the end of the sessions a meeting was called to discuss the possibility of organizing a second symposium in the near future.

The concensus was that the next symposium should be in the USSR in 1977 or 1978. A recent letter from Prof. M. G. Valyashko says that tentative plans have been drafted to hold the symposium in Moscow in the summer of 1978.

Requests for information about the exact time and place of the symposium, lists of topics to be discussed, etc., should be directed to:

✓ Prof. M. G. Valyashko
 Chair of Geochemistry
 Geological Faculty
 Lomonosov State University
 117234
 Moscow V-234, USSR

SECOND INTERNATIONAL SYMPOSIUM ON WATER-ROCK INTERACTION,

STRASBOURG, FRANCE, AUGUST 17-25, 1977.

1. Scope. The first circular for the symposium has already appeared and the announced topics to be considered are as follows:
 - a. Near surface environments:
 - (1) Weathering and soil formation.
 - (2) Chemical sedimentation, early diagenesis, submarine processes, including recent ore deposition.
 - (3) Geochemical behavior of ground waters, diagenetic reactions.
 - b. Saline environments:
 - (1) Salty soils formation, exchanges, organic matter influences.
 - (2) Origin of brines and oil fields.
 - (3) Formation of evaporites.
 - c. Elevated-temperature environments:
 - (1) Geochemistry of metamorphic and magmatic fluids, including fluid inclusions.
 - (2) Active geothermal systems.
 - (3) Formation of hydrothermal ore deposits.
 - d. Experimental and theoretical models:
 - (1) Thermodynamics.
 - (2) Kinetics.
 - (3) Surface-chemistry phenomena.

- e. Practical applications and case histories:
- (1) Exploration for natural resources: ore deposits, petroleum and natural gases, geothermal energy.
 - (2) Irrigation problems in arid countries.
 - (3) Environmental changes.
 - (4) Water-rock interaction and hydrology in rift valleys; Rhine Graben hydrochemical problems.

2. Organization. An organizing committee of seven members has been appointed, six of whom will head sub-committees for various functions in connection with the symposium. The seventh member, Dr. Yves Tardy, is the Secretary-General for the symposium. Requests for copies of the circular, additional information, etc., should be sent to him at the following address:

✓ Dr. Yves Tardy
 Institut de Geologie
 1 rue Blessig
 67084 Strasbourg
 France

3. Time and place. The symposium has been scheduled for August 17-25, 1977, and will be held at the Institut de Geologie in Strasbourg.

4. Sponsorship. The symposium will be sponsored by the International Association of Geochemistry and Cosmochemistry and the Institut de Geologie; UNESCO will provide at least symbolic assistance whether or not they are able to aid financially.

SECOND INTERNATIONAL KIMBERLITE CONFERENCE, 1977.

1. Time and place. Time: September 25-October 11, 1977.
 Place: The "American Southwest"; the scientific sessions will be held October 3-7 at Bishop's Lodge, three miles north of Santa Fe, N.M. Three field trips are planned to precede and follow the scientific sessions (vide infra).

2. Sponsorship: The conference will be sponsored by IAGC and nine other international and national scientific organizations.

3. Scope. The recently issued Preliminary Announcement suggests the following topics:

- a. Geochemistry and petrology of nodules.
- b. Kimberlite field relations.
- c. Geophysics.
- d. Experimental petrology.

Potential participants are free to suggest other topics if they wish.

4. Field trips:

a. An informal one day trip to the diamondiferous kimberlite at Murfreesboro, Arkansas, in advance of the official opening of the Conference; probably on Sept. 23 or 24.

b. Colorado/Navajo: A trip to interesting pipes and plugs in Colorado, New Mexico and Arizona, Sept. 25-Oct. 2.

c. Basalt nodules: A trip to spectacular nodule localities in New Mexico and Arizona, Oct. 7-11.

5. Publications: An abstract volume and field guides will be available for participants in the scientific sessions and field trips, respectively. A Proceedings Volume containing the papers given at the sessions will be published after the Conference.

6. Estimated costs:

Registration -----	\$90
Meeting, Bishop's Lodge-----	225
Murfreesboro trip-----	50
Colorado/Navajo trip-----	320
Basalt nodule trip-----	215

7. Convenors:

Louis H. Ahrens, University of Cape Town, Rondebosch, R.S.A.
 ✓ Francis R. Boyd, Geophysical Laboratory, Washington, D.C., U.S.A.
 ✓ J. Barry Dawson, St. Andrews University, St. Andrews, U.K.

8. Contacts: Copies of the Preliminary Announcement, including the questionnaire that can serve as a provisional registration, can be obtained from:

Second International Kimberlite Conference
 Sylvia-K, Inc.
 5671 Blue Sage Drive
 Littleton, Colorado 80123
 USA

or

William Petrie, Secretary
 U. S. National Committee for Geochemistry
 Division of Earth Sciences
 National Research Council
 2101 Constitution Avenue, N.W.
 Washington, D. C. 20418
 U.S.A.

SYMPOSIUM ON ENVIRONMENTAL GEOCHEMISTRY AND HEALTH,LONDON, MARCH, 1978.

The Royal Society has asked Prof. John S. Webb and Dr. S.H.U. Bowie to organize the above-mentioned symposium. The organizers kindly and promptly notified the IAGC about this interesting and important meeting.

No formal arrangements for co-operation have yet been made, but it is hoped that IAGC can co-sponsor the symposium and that the Association's working group in this field may be able to help make the meetings a little broader and more comprehensive than they could otherwise have been.

Requests for information can be directed to:

✓ Prof. John S. Webb
Department of Geology
Imperial College
Prince Consort Road
Kensington 5111
London SW 7, England

or

✓ Dr. S.H.U. Bowie
Institute of Geological Sciences
Geochemical Division
64-78 Cray's Inn Road
London WC1X 8NG, England

IAGC AND RELATED PUBLICATIONS

- Ahrens, Louis H. (ed.) (1968): Origin and Distribution of the Elements, proceedings of a symposium held in Paris in May, 1967. International Series of Monographs in Earth Sciences, vol. 30, Pergamon Press, Oxford, 1178 pages, \$10 to IAGC members; \$48 retail.
- Millman, Peter M. (ed.) (1969): Meteorite Research, proceedings of a symposium on meteorite research held in Vienna, August, 1968. D. Reidel, Dordrecht, Holland, 940 pages, \$28.80 to IAGC members; \$48 retail.
- Brunfelt, Arild O. and Eiliv Steinnes (eds.) (1971): Activation Analysis in Geochemistry and Cosmochemistry, proceedings of the NATO Advanced Study Institute held in Kjeller, Norway, Sept., 1970. Universitetsforlaget, Oslo (U.S. address: Box 142, Boston, Mass. 02113), 465 pages.
- Mason, Brian (ed.) (1971): Handbook of Elemental Abundances in Meteorites, Series on Extraterrestrial Chemistry, vol. 1, Gordon and Breach Science Publishers, New York, 555 pages, \$13.90 to IAGC members; hardcover, \$56, paperback, \$28, retail.

Tugarinov, A. I. (ed.) (1971): Abstracts of Reports, International Geochemical Congress, Moscow, 1971; 2 vols.; Organizing Committee of International Geochemical Congress, USSR Academy of Sciences, Moscow, 1,023 pages. No price given; paperback editions.

Genesis of Precambrian Iron and Manganese Deposits, proceedings of a symposium held in Kiev, August, 1970; Earth Science Series of UNESCO, Paris, 1973, 382 pages. UNESCO Publication No. ISBN 92-3-001107-X (paper), \$32 retail; no reduced price for IAGC members.

Ingerson, Earl (ed.) (1973): Hydrogeochemistry (vol. I) and Biogeochemistry (vol. II), proceedings of the Symposium on Hydrogeochemistry and Biogeochemistry, held in Tokyo, September, 1970. The Clarke Co., P. O. Box 171, McLean, Virginia 22101, U.S.A., \$10 each volume to IAGC members; \$12.50 retail. Vol. I, 662 pages; vol. II, 613 pages.

Nriagu, Jerome (ed.) (1967): Environmental Biogeochemistry, Vol. 1 - "Carbon, Nitrogen, Phosphorus, Sulfur and Selenium Cycles"; proceedings of the 2nd International Symposium on Environmental Biogeochemistry held in Hamilton, Ontario, April, 1975. Ann Arbor Science Publ., Inc., Ann Arbor, Michigan, 797 pages, \$18.75 each volume; \$29.50 for the set. No discount to IAGC members; only for volume contributors.

ITEMS FOR THE NEWSLETTER

It would be very much appreciated if members who know of items appropriate for the NEWSLETTER could send them to:

Prof. Earl Ingerson
Dept. of Geological Sciences
University of Texas at Austin
Austin, Texas 78722
U.S.A.

Copy for the next number of the NEWSLETTER should be submitted by December 1, 1976.