Meetings

Water Balance in North America

A symposium on North American water balance was conducted under the sponsorship of the American Water Resources Association at Banff, Alberta, Canada, 23–26 June 1969. This association was formed several years ago to bring together professionals in all the disciplines concerned with our water resources. One of the principal ways in which it serves this purpose is by the organization of meetings and symposia on subjects of current interest.

This symposium was a forum for the non-technical as well as the technical and scientific problems involved. Questions regarding the actual needs and justification for both water projects and research were raised time and again by both the speakers and participants in the meetings. The tone of the symposium was well established by Dean F. Peterson (director, U.S. Office of Water for Peace) in the keynote address entitled "Water Balance—A Scientific or Social Question."

The sessions covered the symposium subject in considerable scientific and technical detail. Seven of the sessions consisted of invited papers on the following topics: national and regional patterns of water balance in North America; local variations in water balance patterns; evaluating streamflow and groundwater components; water balance modification—regime and quality; increasing the yield of water; increasing the utility of water; and responsibilities of water management.

The eighth session was a discussion of research programs and research needs. Leo Heindl (secretary, U.S. National Committee, International Hydrological Decade) and his Canadian counterpart, Ira C. Brown, led the first discussion. The second was led by a panel consisting of Michel Slivitsky, (Director-General of Water for Quebec), Ronald R. Renne (University of Illinois), and Daniel B. Luten (University of California, Berkeley).

The symposium papers, taken together in context, presented an excellent picture of the present status and future possibilities in solving water balance problems. There are essentially four means by which water balance problems can be attacked. These are: (i) modification of weather to control precipitation, storage in glaciers, or other natural processes; (ii) redistribution of water that has fallen from areas of surplus to areas of shortage; (iii) better use of available water by such means as evaporation suppression, recycling, desalination, or improved irrigation practices; and (iv) limiting the need for water by means such as controlling land use or redistributing population.

Taken individually, a few papers were somewhat too limited in scope for the broad subject of water balance in North America. This was especially true of weather modification, where one paper dealt with strictly small-scale effects while more global effects were only mentioned in passing in some of the other papers. A question raised from the floor at the opening session and never answered concerned the responsibility for controlling large-scale weather modification which might change precipitation patterns. From the technical viewpoint, one of the most interesting papers concerned the potential for use of sprinkler irrigation; it appears to hold forth greater future possibilities for economies in water use and cost than had appeared possible in the past.

Some of the most interesting discussions took place on subjects in the non-technical area. Several of the speakers and commentators from the floor dwelt on the point that water agencies, once formed, helped to create the need for more water in their areas. It was also suggested that political maneuvering to obtain cooperation in solving water problems is not too difficult in closely related jurisdictions, but it becomes more and more difficult as more governmental units or agencies become involved. It was the opinion of one speaker that because of this, large-scale water diversion projects would never be adopted as part of a broad plan. Rather, they are more apt to evolve gradually, beginning with the cooperation of smaller units with their immediate neighbors.

The papers presented at the symposium will be published in a Proceedings which will be available from the American Water Resources Association, P.O. Box 434, Urbana, Illinois, for $10.

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Courses

X-ray Spectrometry, Albany, N.Y., 8–19 June. The course will be instructional and will develop the basic theory and techniques, starting from elementary principles. No previous knowledge or experience are required. The first week will cover basic principles and techniques and the second week will continue with further fundamentals and practical applications. The latter part of the second week will emphasize nondispersive analysis, advanced techniques, mathematical methods, and computer automation of modern x-ray spectrometers. Registration may be made for 1 week, either week, at a registration fee of $250 and for the entire 2-week session at a registration fee of $450. (Professor Henry Chessin, Department of Physics, State University of New York at Albany, 1400 Washington Ave., Albany 12203)

Theoretical Physics, Waltham, Mass., 15 June–24 July. Lectures and seminars will be devoted to current topics in elementary particle physics and quantum field theory. (The Secretary, Physics Summer Institute, Brandeis University, Waltham, Mass. 02154)

Histochemistry for Teachers of Zoology, Nashville, Tenn., 3–22 August. Living and travel expenses for 20 selected participants will be funded by a grant from the National Science Foundation. No tuition or fees will be charged. To be eligible, applicants must be members of the faculty of an accredited college or university and teach at least one course in some area of zoology. In addition, they must be interested in histochemistry either in teaching and/or research. *Deadline for receipt of application*: 1 May 1970. (Dr. Burton J. Bogitsh, Box 1733, Station B, Vanderbilt University, Nashville, Tenn. 37203)

Gas Kinetics, Lake Arrowhead, Calif., 15–21 February. Is intended to present a large sampling of modern gas kinetics in a strictly instructional setting. The topics to be covered include potential surfaces, cross sections and rate constants, and scattering theory; kinetic spectroscopy, quenching, reactivity of excited molecular states, and lasers; hot atom chemistry and ion-molecule reactions; and chemical activation, energy transfer, and unimolecular reactions. Fee: $175. Limited to approximately 80 participants. (Don L. Bunker, Director of the Winter Course, Department of Chemistry, University of California, Irvine 92664)