

REPORT ON INTERNATIONAL ASSOCIATION OF HYDROLOGICAL SCIENCES ASSEMBLY

The first IAHS Scientific General Assembly was held at Exeter, U.K., from 19-30 July 1982 in the form of six symposia: (1) Advances in hydrometry; (2) Optimal allocation of water resources; (3) Improvements of methods of long-term prediction of variation in groundwater resources and regimes due to human activity; (4) Recent developments in the exploration and prediction of erosion and sediment yield; (5) Hydrological aspects of alpine and high-mountain areas; and (6) Effects of waste disposal on groundwater and surface water. Although attended by over 550 people from over 60 countries, I was the only participant from New Zealand. Symposia tended to operate in parallel sessions, so this report largely refers to Symposium (5), my main interest at the Assembly.

The majority of papers addressed the problem of estimating runoff from basins with seasonal snow covers and glaciers, attempting to provide techniques that are useful for operational management of water yield for irrigation and hydro-electricity generation. As a consequence, many of the more theoretical approaches for estimating snowmelt (e.g. energy-balance models) were rejected, largely because of difficulties of obtaining the necessary input data from remote mountain basins. Instead, more empirical, but conceptually-based models are receiving most attention in Japan, Europe and North America. Much enthusiasm is shown for the Martinec model, which is relatively simple and self-calibrating. A major study by WMO has taken eleven models of snowmelt runoff from eight countries and fitted them to six standard sets of data from different climatic regimes. Participants are to meet soon, and results are to be published in 1983.

Landsat and weather satellite imagery is now used regularly in most countries to monitor snow cover area. In Norway it is integrated into day-to-day operations for managing hydro reservoirs. In Pakistan and India satellite coverage is used to predict snowmelt volumes from the Indus and Himalayan catchments.

Large displays of hydrological equipment were on show at the Assembly. Of most interest to New Zealand were new automatic weather stations, involving mechanical shock-induction, miniaturisation, and flexible surfaces which, together with the choice of suitable materials, have effectively eliminated the riming problem, and so allow meteorological measurements at high altitude. The "hydra" is a compact system for measuring evaporation directly, and automatically, using the eddy correlation approach. A difficult problem with sensors has been solved by the use of sonic anemometers and infra-red hygrometers with data processed by microprocessor. Inevitably there were presented a bewildering range of logging and hydrological data-processing systems, but there are exciting developments in hand-held computers to acquire and process sophisticated data in the field.

Of the interplenary key-note lectures the most memorable was that of Dooge, who made a plea to the hydrological fraternity to be more

tolerant of different approaches to water modelling and problems. He stressed such differences were inevitable in a multidisciplinary field, and by outlining the highly anomalous features of the substance water, produced an analogy of how we should accept the unusual provided it does the job.

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PUBLICATIONS RECEIVED BY THE EDITOR

For convenience, these items are held by the Information Officer, Water and Soil Science Centre, MWD, P.O. Box 1479, Christchurch. They are available to members on request.

1. "Application of Results from Representative and Experimental Basins". A contribution to the International Hydrological Programme prepared by the Working Group on Representative and Experimental Basins—Project 4.1. D. N. Body, Chairman. Studies and reports in hydrology, 32, UNESCO Press. 477p.
2. "Groundwater Models, Volume 1. Concepts, Problems, and Methods of Analysis with Examples of their Application." Prepared for the International Hydrological Programme Working Group 8.1. J. D. Bredehoeft, Chairman. Studies and reports in hydrology 34, UNESCO Press. 235 p.
3. Asian Environment, Journal of Environmental Science and Technology for Balanced Development, 3rd Quarter, 1982.
4. Water Resources Journal, June, 1981, published by the United Nations Economic and Social Commission for Asia and the Pacific.
5. UNEP Asia-Pacific Report 1981 "The Resources for Development".
6. International Drinking Water Supply and Sanitation Decade: Case history 5. "Internal Financing of Water Supply and Sanitation in Developing Countries." 17 p. Case history 6. "Impact of Community Water Supply and Sanitation Programmes in Developing Countries." 14 p.