



IHD BULLETIN

NEW ZEALAND

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The International Hydrological Decade Bulletin is an official publication of the New Zealand National Committee for the International Hydrological Decade and presents, twice annually, a survey of programmes, activities and findings of hydrology in New Zealand, carried out under the auspices of the IHD; and also a summary of international activities.

THE INTERNATIONAL PROGRAMME

The International Hydrological Decade is a 10-year scientific programme with two main objects: International co-operation for the advancement of basic science in hydrology; and encouragement to each participating country to itself promote improved systems in water planning and management.

It has been conceived because problems associated with water use and management are becoming more and more serious throughout the world. It provides equally for activities by countries capable of advanced scientific studies and by other countries not so highly developed.

The Decade is being promoted and co-ordinated by the United Nations Educational Scientific and Cultural Organisation (UNESCO) with technical advice provided by experts from many countries. In each participating country National Committee are being established to arrange and co-ordinate National Programmes.

Descriptions of activities proposed are given in UNESCO Publication NS/NR/100 but a final programme has not yet been issued. The Preparatory Inter-Government Meeting of Experts held in Paris, 7-17 April, 1964, discussed the requirements for this programme. New Zealand was represented at this meeting by Dr V. Armstrong, Scientific Liaison Officer, London.

NEW ZEALAND NATIONAL COMMITTEE

Following a request by the New Zealand National Commission for UNESCO to the Commissioner of Works, a National Committee was established with the following membership:

Mr B. W. Collins, Editor, Information Bureau, Department of Scientific and Industrial Research (representing the Royal Society of New Zealand).

Mr P. G. Evans, Chief Engineer, Manawatu Catchment Board (representing the New Zealand Institute of Engineers).

Mr J. H. Fyson, Materials Engineer (representing the Ministry of Works).

Mr A. F. Greenall, Chief Soil Conservator, Otago Catchment Board.

Mr F. M. Henderson, Associate Professor of Civil Engineering, University of Canterbury.

Mr J. A. D. Nash, Principal Scientific Officer (representing the Department of Scientific and Industrial Research).

Dr R. G. Simmers, Director, New Zealand Meteorological Service (representing New Zealand Meteorological Service).

Mr N. H. Taylor, retired director, New Zealand Soil Bureau, (representing the UNESCO Sub-Commission on Science).

Mr C. Toebes, Hydrologist, Ministry of Works (representing the New Zealand Hydrological Society).

Mr R. W. Willett, Director, New Zealand Geological Survey (representing the Department of Scientific and Industrial Research).

Chairman: Mr A. P. Campbell, Senior Engineer Hydrologist, Ministry of Works.

Secretary: Mr D. G. Shouler, secretary, New Zealand National Commission for UNESCO.

Where representation is indicated, members have been formally appointed by organisations approached by the chairman, others were invited to join the committee. The National Committee realises that many other organisations will also be interested and it therefore welcomes enquiries about representation. One such request has already been received from the Department of Health. It is pointed out, however, that the technical sub-committees already set up or proposed (see later) allow for effective representation of a wide range of specialised interests, and it is thought that this will be a better way of enlisting the support of all interested persons and organisations than by having a large, unwieldy National Committee.

The National Committee's responsibilities are as follows:

- (i) To advise the National Commission for UNESCO—through the Sub-Commission on Science—on all matters concerned with New Zealand's participation in IHD.
- (ii) To co-ordinate the hydrological activities, relevant to IHD, of those organisations in New Zealand who will be able to make a contribution to IHD.

- (iii) Incidentally, to improve contact between organisations on hydrological matters generally so that there is created a framework upon which purely national considerations can be reviewed and appraised.

OUTLINE PROGRAMME FOR NEW ZEALAND

The National Committee, after a survey of present activities within New Zealand and consideration of utilitarian requirements of New Zealand, has advised the IHD Secretariat that New Zealand's contribution would emphasise the following:

- (i) Soil-water-plant relationships; water resources; erosion and stream-bed evolution; ground water hydrology; hydro-meteorology; and quality of water. Of these the first three are subjects on which New Zealand's problems and proposed scientific activities give prospects of significant contributions to the International Programme; with other activities the interests of New Zealand are mainly to obtain benefit through the adoption of techniques used overseas.
- (ii) The desirability of countries participating in the Decade working, wherever possible, on a group or regional basis — groupings to be decided by factors such as:
Hydrological similarity; similarity in standard working methods; nearness of member countries; and partnership of countries that are scientifically advanced with others not so advanced.
- (iii) Hydrology of outlying territories in the Pacific Ocean, especially where water supplies are critical, and in the Antarctic.
- (iv) Activities concerned with education and training.

In the classification of activities given by UNESCO in NS/NR/100 the following are included:

Precipitation; evaporation and evapotranspiration; surface water; soil moisture; ground water; snow and ice; specific aspects of water balances; hydrological forecasting; geo-chemistry of natural waters; erosion and channels; and the influence of man on hydrological phenomena.

TECHNICAL SUBCOMMITTEES

Several technical subcommittees are proposed. Membership of these subcommittees comprises scientists with most experience in the particular subject and representatives of working agencies actively concerned with it. Subcommittees have defined terms of reference and generally will be active only for a short term sufficient to ensure co-ordination of technical standards and

planning of a programme. Follow-up work will remain the responsibility of agencies themselves — government, local, universities, etc.

Subcommittees so far established comprise the following:

(i) SNOW

Purpose of Subcommittee: To recommend methods and locations for regular snow surveys and to advise on techniques for forecasting water supplies derived from snow melt.

Membership: A. F. Greenall, Otago Catchment Board, convenor. M. Bolt, Ministry of Works, Dunedin. J. D. Coulter, New Zealand Meteorological Service, Wellington. A. J. Gillies, Otago Catchment Board. R. K. Howard, Ministry of Works, Power Division. I. McKellar, Geological Survey, D.S.I.R., Dunedin. A. Mark, Otago University. J. Y. Morris, New Zealand Forest Service, Rangiora. W. B. Morrissey, Hydrological Survey, Ministry of Works, Christchurch.

(ii) HYDROLOGICAL DECADE EXPERIMENTAL BASINS

Purpose of Subcommittee: Broadly, to refine and standardise methods used in research in soil-water-plant relationships, particularly for work on experimental basins (catchments). Detailed terms of reference include assessing the suitability of existing experimental basins and recommending other areas where research is desirable; also recommendation on forms for publication of information and on how best to combine site measurements of soil and vegetation with hydrological observations.

Membership: C. Toebe, Hydrological Section, Ministry of Works, convenor. B. Douglass, Lincoln College. H. S. Gibbs, Soil Bureau, D.S.I.R. A. F. Greenall, Otago Catchment Board. R. H. Jackson, Soil Bureau, D.S.I.R. J. Y. Morris, New Zealand Forest Service, Rangiora. T. F. Noble, Department of Agriculture, Research Division. B. Treeby, Department of Agriculture (for Soil Conservation and Rivers Control Council). M. Yates, Department of Agriculture, Farm Advisory Division.

(iii) EDUCATION

Purpose of Subcommittee: To define categories in which hydrologists and others closely concerned with hydrological disciplines should be classified to best meet requirements in New Zealand and to bring down proposals for their education and training.

Membership: F. M. Henderson, University of Canterbury, convenor. R. H. Clark, Victoria University of Wellington. N. W. Collins, Ministry of Works, Wellington (for New Zealand Hydrological Society). K. L. Fenaughty, State Services Commission, Wellington. L. E. Oborn, Geological Survey, Christchurch (for Department of Scientific and Industrial Research). A. S. Prime, Department of Education, Wellington. A. J. Raudkivi, University of Auckland (for School of Engineering). P. K. Simons, Rangitikei Catchment Board (for Association of Catchment Board Engineers). C. J. Tustin, Ministry of Works, Wellington (for Ministry of Works). T. W. Walker, Lincoln College. R. S. Waters, University of Canterbury. D. R. Wilkie, Department of Agriculture, Christchurch (for New Zealand Association of Soil Conservators).

(iv) GROUND WATER

Purpose of Subcommittee: To make preliminary recommendations for the extension of surveys of ground water in New Zealand and methods for co-ordinating ground water records with hydrological data on surface water.

Membership: R. W. Willett, Geological Survey, convenor. A. P. Campbell, Ministry of Works. D. Kear, Geological Survey, Auckland. L. Oborn, Geological Survey, Christchurch.

Note: The intention is that later this year when preliminary recommendations are available, the membership of the subcommittee will be increased to provide for specialized interests.

(v) HYDROMETEOROLOGY

Purpose of Subcommittee: To study in general the requirements for hydrometeorological work in New Zealand and to make preliminary recommendations regarding a hydrometeorological programme for the IHD.

Membership: R. G. Simmers, New Zealand Meteorological Service, convenor. A. P. Campbell, Ministry of Works. F. M. Henderson, University of Canterbury. N. G. Robertson, New Zealand Meteorological Service.

Note: The intention is that later this year the membership will be suitably broadened.

Further subcommittees are proposed on the subject of water quality, and preparation for hydrological mapping; and others may be established as the programme develops. Suggestions and offers of assistance will be welcomed.