

Park, Grendon Underwood, and the Catchwater Drain and Llanbrynmair catchments, and progressively illuminates the role, not only of scale effects, but also of drainage type (and especially the difference between pipe drainage alone and drainage with secondary treatment such as moling or subsoiling), and of soil type and soil water regime.

This report is well illustrated throughout, with both diagrams and tabulated data, and contains well over 250 references. It is remarkably easy to read and in my estimation represents one of the most significant contributions which has yet been made to the hydrological literature on land drainage impacts.

Roy Ward

University of Hull, UK

Hydrology of Floods in Canada: A Guide to Planning and Design

NRCC no. 29734, published 1989 by Publications Sales and Distribution Office, National Research Council Canada, Montreal Road, Ottawa, Ontario, K1A 0R6, Canada; 245 + xvi pp; price \$60; ISBN 0-6660-12876-4

This book with 245 pages has covered almost all the aspects of the hydrology of floods. Its contents are very interesting and attractive, and consist of: (1) introduction; (2) general considerations for design; (3) characteristics of floods in various regions; (4) design flood criteria; (5) statistical frequency analysis of hydrological data; (6) storm rainfall; (7) snowmelt contributions; (8) streamflow simulation; (9) urban design floods; (10) ice jam floods; and (11) special flood conditions and techniques.

Floods involve not only technical problems but also socio-economic and legislative problems, so they are complicated. Especially in Canada, there is a vast territory with various types of runoff and floods. This guide to Canadian flood hydrology is very excellent.

In Chapter 4, *Design Flood Criteria*, contributors to the book thoroughly discuss risk and economic efficiency of design. Assessment of fit and calculating results for extreme value I, lognormal, 3 parameter lognormal, log Pearson III and Pearson III distributions in Chapter 5, *Statistical Frequency analysis of Hydrologic Data*, are rather noteworthy. In the same chapter, the index flood method and others are introduced for calculating floods at ungauged sites: joint frequency applications are rather practical. Chapters 6 and 7 introduce storm and snowmelt floods including PMP and snowmelt estimation methods. Chapter 8 describes watershed, channel, reservoir and lake routing methods. Some fundamental concepts including abstractions from rainfall and snowmelt will be of considerable interest. Chapters 10 and 11 discuss many special flood problems such as ice and debris jam floods, glacial outburst floods, landslide-generated floods, etc. for which methods of calculation are similar to some extent. Urban flood design rose as a new hydrological topic with the rapid development of cities. Chapter 8 of the book gives extensive knowledge about urban design, input data and physical parameters needed for design as well as computational methods. There are many case examples and 71 tables and 85 figures show various data and relationships in the book. It is helpful that the book introduces many computer programs for calculating various types of floods. There are 24 large photographs showing various types of floods which will leave a deep impression on readers. (Figure D.4 does not show the variable and scale number of the abscissa).

Dai Shensheng

The Yellow River Water Resources Protection Institute, China

Publications received by the Editor

1. *GeoInfo Systems* October 1991, and November/December 1991. Published by Aster Publishing Corp., 859 Willamette Street, PO Box 10460, Eugene, Oregon 97440-2460 USA.

2. *Anomalies of the Global Heat and Water Exchange: Stochastic Models* (in Russian) by S. G. Dobrovolsky. Results of researches on the International Geophysical Projects, published 1991 by the Soviet Geophysical Committee of the Academy of Sciences of the USSR, Molodezhnaya 3, Moscow, GSP-1, USSR.
3. *Ecological Water Management in Practice* edited by J. C. Hooghart & C. W. S. Posthumus. Proceedings and Information no. 45, Proceedings of Technical Meeting no. 49, Ede, The Netherlands, 3 October 1990, published 1991 by the Advisory Council for Research on Nature and the Environment, CHO-TNO, PO Box 6067, 2600 JA Delft, The Netherlands.
4. *Korean Journal of Hydrosiences* 2, June 1991. Published by the Korean Association of Hydrological Sciences, Jamsil Core O.P. rm 405, 11-9 Shindu-Dong, Songpa-Gu, Seoul 138-240, Korea.
5. *Global Change Newsletter* no. 7, September 1991, published by IGBP Secretariat, The Royal Swedish Academy of Sciences, Box 50005, S-10405 Stockholm, Sweden.
6. *IAHS Information* (in Chinese) 1991 3(4), edited by Dai Shensheng, The Yellow River Water Resources Protection Institute, 2 Chengbei Road, Zhenzhou, China.
7. *Mineral Resources of Russia: Economics and Management* (in Russian) published 1991 by Geoinformmark, 38, Volodarskaya Street, Moscow 109172, USSR.
8. *Dredging Research* Information Exchange Bulletin, September and October 1991, volumes DRP-91-3 and DRP-91-4, edited by Clark McNair, Coastal Engineering Research Center, US Army Engineer Waterways Experiment Station, 3909 Halls Ferry Road, Vicksburg, Mississippi 39180-6199, USA.
9. *Report on Scientific Activity in Meteorology and Atmospheric Physics* 1987-1990, published 1991, and presented to IAMAP for the XX General Assembly of IUGG by the Soviet Geophysical Committee of the Academy of Sciences of the USSR.
10. *Report on Scientific Activity in Glaciology* 1987-1990, published 1991, and presented to IAMAP for the XX General Assembly of IUGG by the Soviet Geophysical Committee of the Academy of Sciences of the USSR.
11. *Bulletin of the International Society of Soil Science* no. 79, 1991/1, published by ISRIC, PO Box 353, 6700 AJ Wageningen, The Netherlands.
12. *Newsletter of the Interuniversity Postgraduate Programme in Hydrology* no. 10, December 1991, edited by Professor A. Van der Beken, Laboratory of Hydrology, Free University Brussels, Pleinlaan 2, B1050 Brussels, Belgium.
13. *IHP Information* no. 27, July/September 1991, published 1991 as part of the International Hydrology Programme by the Division of Water Sciences, UNESCO, BP 3.07, 75700 Paris, France.
14. *Colorado River Ecology and Dam Management* Proceedings of a Symposium, 24-25 May 1990, Santa Fe, New Mexico, published 1991 by National Academy Press, 2101 Constitution Avenue NW, Washington DC 20418, USA and distributed by John Wiley & Sons Ltd, Baffins Lane, Chichester, West Sussex PO19 1UD, UK.
15. *Ground Water and Soil Contamination Remediation: Toward Compatible Science, Policy and Public Perception* published 1990 by National Academy Press, 2101 Constitution Avenue NW, Washington DC 20418, USA, and distributed by John Wiley & Sons Ltd, Baffins Lane, Chichester, West Sussex PO19 1UD, UK.
16. *Stormwater Detention for Drainage, Water Quality and CSO Management* by Peter Stahre & Ben Urbanas, published 1990 by Prentice-Hall, 66 Wood Lane End, Hemel Hempstead, Hertfordshire HP2 4RG, UK.
17. *Hydrological Applications of Weather Radar* ed. I. D. Cluckie & C. G. Collier, based on the International Symposium on Hydrological Applications of Weather Radar, University of Salford, UK, August 1989, published 1991 in the Ellis Horwood Series in Environmental Management Science and Technology by Ellis Horwood, Market Cross House, Cooper Street, Chichester, West Sussex, PO19 1EB, UK, and distributed by Prentice-Hall, 66 Wood Lane End, Hemel Hempstead, Hertfordshire HP2 4RG, UK.
18. *Transport Processes in Porous Media* ed. Jacob Bear & M. Yavuz Corapcioglu, NATO Series E in Applied Science vol. 202, published 1991 by Kluwer Academic Publishers, PO Box 17, 3300AA Dordrecht, The Netherlands.
19. *Effects of Upland Afforestation on Water Resources: The Balquhiddy Experiment 1981-1991* ed. R. C. Johnson, Institute of Hydrology Report no. 116, published 1991 by Institute of Hydrology, Crowmarsh Gifford, Wallingford, Oxfordshire, OX10 8BB, UK.
20. *Alarm Model Rhine Version 2.0 Calibration and Verification* by M. Bremicker, A. van Mazijk, J. van Mierlo, P. Verwoerd & H. Wiesner, CHR/KHR Report no. II-4, published 1991 by Secretariaat CHR/KHR, Maerlant 4-6, PO Box 17, 8200 Lelystad, The Netherlands.
21. *Final Report of the 1982-1989 NWRW Research Programme: Conclusions and Recommendations* published 1991 by the National Working Party on Sewerage and Water Quality, Ministry of Housing, Physical Planning and Environment (VROM), PO Box 450, 2260 MB Leidschendam, The Netherlands.

Forthcoming papers

The following papers have been accepted for publication in forthcoming issues of *Hydrological Sciences Journal*:

HUBERT J. MOREL-SEYTOUX & MAHMOUD NACHABE An effective scale-dependent dispersivity deduced from a purely convective flow field