

BIBLIOGRAPHY

1) HANDBOOK OF APPLIED HYDROLOGY

Editor-in-Chief: VEN TE CHOW

published by McGraw-Hill Book Co., Inc., in 1964.
1467 pages, 614 illustrations. \$ 39.50.

Publication of a 1467-page volume on water-resources technology has just been announced by the McGraw-Hill Book Company of New York. The giant volume entitled "Handbook of Applied Hydrology - A Compendium of Water-resources Technology" was prepared by a staff of 45 leading specialists from various major universities, consulting firms, and government agencies under the direction of Dr. Ven Te Chow, Professor of Hydraulic Engineering, UI Department of Civil Engineering. Dr Chow is the handbook's editor in--chief.

The contributors to the book include specialists from U.S. Agricultural Research Service, Area Redevelopment Administration, Army Corps of Engineers, Bureau of Reclamation, Forest Service, Geological Survey, Soil Conservation Service, Weather Bureau, Tennessee Valley Authority, and Australian Commonwealth Scientific and Industrial Research Organisation; from University of California, University of Chicago, Colorado State University, Columbia University, University of Illinois, Iowa State University, University of Michigan, University of Nevada, and University of Wyoming; and from a number of consulting firms in Baltimore, Maryland, St. Petersburg, Florida, St. Louis, Missouri, and New York City.

The handbook is a comprehensive manual on modern hydrology which presents a complete, practical review of the basic theories, principles, and data required for the study and management of water and water-resources projects. Although the practical aspects of hydrology are emphasized, basic theories and principles are thoroughly discussed whenever necessary for clear understanding of the measurement, analysis, and design involved in complex water problems.

The first 28 sections of the book are arranged to cover five major parts: branches of science related hydrology; various phases of the hydrologic cycle; specialized areas of hydrology; water-resources planning and design; and social, legal, and political aspects of water. Section 29 gives a summarized account of the various applications of both digital and analog computers in solving hydrologic problems.

Within the full spectrum of hydrosience, the book covers an array of topics including oceanography, meteorology, hydrogeology, geomorphology, soil physics, plant ecology, silviculture, fluid mechanics, statistics, probability, rainfall, snow, evaporations, transpiration, infiltration, groundwater, runoff, ice glaciers, sedimentation, drought, low streamflow, flow determination, flood routing, streamflow measurement, reservoir regulation, river forecasting, urban hydrology, agricultural hydrology, forestry and rangeland hydrology, airport hydrology, superhighway hydrology, lakes, swamps, arid and semiarid region hydrology, water resources planning, development, economics, and operations research, floodplain adjustments and regulations, water law, water policy, and electronic computers.

(From the authors).

Section 1 - Hydrology and its Development - Dr. VEN TE CHOW

Section 2 - Oceanography - Dr. VEN TE CHOW

Section 3 - Meteorology - Dr. SVEITRE PETERSEN

Section 4 - Geology

Part I - Hydrogeology - Dr. GEORGE B. MAXEY

Part II - Quantitative Geomorphology of Drainage Basins and Channel Networks -
Dr. ARTHUR N. STRAHLER

- Section 5 - Soil Physics - Dr. Don KIRKHAM*
- Section 6 - Ecological and Silvicultural Aspects - Dr. Howard W. LULL*
- Section 7 - Fluid Mechanics - Dr. Maurice L. ALBERTSON, and*
- Section 7 - Fluid Mechanics - Dr. Maurice L. ALBERTSON, and Dr. Daryl B. SIMONS*
- Section 8 - Statistical and Probability Analysis of Hydrologic Data*
- Part I - Frequency Analysis - Dr. VEN TE CHOW*
- Part II - Regression and Correlation Analyses - Dr. Vujica M. YEVDJEVICH*
- Part III - Analysis of Variance, Covariance, and Time Series - Mr. David R. DAWDY, and
Dr. Nicholas C. MATALAS*
- Part IV - Sequential Generation of Hydrologic Information - Dr. VEN TE CHOW*
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- Section 10 - Snow and Snow Survey - Mr. Walter U. GARSTKA*
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Mr. H. N. HOLTAN*
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Mr. J. Marvin ROSA, and Mr. Robert L. HOBBA*
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AYERS*
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- Part IV - River Forecasting - Mr. T. J. NORDENSON, and Mr. M. M. RICHARDS*
- Part V - Floodplain Adjustments and Regulations - Dr. Gilbert F. WHITE*
- Section 26 - Water Resources Planning and Development*
- Part I - Planning and Development - Mr. J.W. DIXON*
- Part II - System Design by Operations Research - Dr. VEN TE CHOW*
- Section 27 - Legal Aspects - Mr. Frank J. TRELEASE University of Wyoming*
- Section 28 - Water Policy - Dr. S. V. CIRIACY-WANTRUP*
- Section 29 - Applications of Electronic Computers in Hydrology - Dr. VEN TE CHOW*

2) USA.

WATER RESOURCES RESEARCH

A NEW SCIENCE QUARTERLY
PUBLISHED BY THE AMERICAN
GEOPHYSICAL UNION

Papers in Snow - Lakes - Floods - Hydrology - Glaciology - Limnology - Hydraulics - Water Law - Precipitation - Stream Flow - Soil Moisture - Sedimentation - Ground-Water - Water Quality - Water Planning - Systems Analysis - Water Economics - River Morphology - Evapo-transpiration - Watershed Management.

*Water, water every where,
Nor any drop to drink.*

This quotation about mid-ocean frustration could easily apply to the situation on well-watered land areas as well. The nation and the world are becoming aware of the increasingly acute shortage of water. To increase this awareness and to facilitate the steps now being taken to meet the problems involved, the American Geophysical Union is establishing a new quarterly journal to be called *Water Resources Research*.

In the coming decade an adequate supply of water is certain to be an increasingly critical matter in the United States as well as in the rest of the world. Critical shortages are natural in arid and semi-arid regions, and studies to make the use of the limited water supply more effective have long been underway. But shortages will become more widespread even in areas which have a heavy amount of rainfall each year.

As a nation we are now spending about \$10 billion annually on water resources development, and our expenditures may soon reach \$20 billion in order to avoid critical water shortages. There is much refinement and improvement needed in the work to be undertaken that can only be attained through a deeper understanding of the physical processes of water. And there is much to be gained through closer ties with the social sciences.

In an effort to bridge the physical and social sciences and so to meet the challenge of the future, *Water Resources Research* has been established as essential to a coherent development of all the sciences of water.

The new journal is also to serve new activities in water science. On the world scene, the International Hydrological Decade, to begin in 1965, is an effort by UNESCO and International Council of Scientific Unions to develop an appraisal of water resources, to study the problems, and to encourage all nations to increase their scientific study of water. At home, the quickening pace of water research has been recognized by the establishment of a Universities Council on Water Resources to upgrade water resources research and teaching including its socio-economic implications, and by the establishment of water resources institutes in each state made possible by the Water Resources Research Act of 1964 signed by President Johnson on July 17.

With so much activity, both private and governmental, the American Geophysical Union saw the necessity for establishing a common ground for communication, and so the new journal, serving as a medium for papers relating to water resources, will be issued on a quarterly basis beginning in 1965. The emphasis will be upon the sciences of water—whether physical, chemical, biological, or social—rather than upon water engineering or water projects.

Papers in the physical, chemical, or biological sciences should be sent to Walter B. Langbein, U.S. Geological Survey, Washington, D.C. 20242.

Papers on the social sciences, including economics or law, should be sent to Allen V. Kneese, Resources for the Future, 1755 Massachusetts Avenue, N.W., Washington, D.C. 20036.

Recent progress in quantitative subaerial geomorphology, coupled with the numerous, high resolution marine geophysical and geological datasets, becoming widely available along continental margins, now suggests major progress can be made at analysing and understanding the margin-scale characteristics and controls on submarine channel and canyon systems. These methods can potentially summarise the complexity of submarine channel and network geometry with a range of parameters, such as a measure of their steepness and concave shapes of their longitudinal profiles, and the branching geometry of upslope tributaries and distributary networks on lobes and splays. Quantitative geomorphology of drainage basins and channel networks. New York, NY: Mc-Graw Hill Book Company; p. 39–76. [23]. Morisawa, M. E. (1962), Quantitative Geomorphology of Some Watersheds in the Appalachian Plateau, Geol. Soc. Amer. GIS based drainage morphometry and its influence on hydrology in parts of Western Ghats Region, Maharashtra, India, Geocarto International, DOI: 10.1080/110106049.2014.978903. [28]. Horton, R. E. (1932), Drainage Basins Characteristics, Trans. Channel networks with arbitrary drainage density or resolution can be extracted from digital elevation data. However, for digital elevation data derived networks to be useful they have to be extracted at the correct length scale or drainage density. Here we suggest a criterion for determining the appropriate drainage density at which to extract networks from digital elevation data. KEY WORDS Drainage density Digital Elevation Models Fluvial geomorphology River basins Mapping Cartography. INTRODUCTION. The advent of digital elevation models (DEMs) has resulted in the evolution of procedures to automatically map or derive channel networks from DEMs.