

FUNDAMENTALS OF HYDROLOG

TIM DAVIE

SECOND EDITION

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In order to manage the world's increasingly scarce water resources we must have a sound understanding of how water moves around the planet and what influences water quality. *Fundamentals of Hydrology* provides an engaging and comprehensive introduction to this subject and provides real-life examples of water resource management in a changing world.

The second edition of this popular book brings the text up-to-date with additional case studies and diagrams and a greater synthesis of water quality with physical hydrology. The chapters on runoff and evaporation have been updated and the final chapter on hydrology in a changing world has more material on water resource management strategies.

Additionally the chapter on streamflow analysis now includes a more in-depth section on modelling runoff. The book begins with a comprehensive coverage of precipitation, evaporation, water stored in the ground and as snow and ice, and runoff. These physical hydrological processes show with respect to the fundamental knowledge about the process, its measurement and estimation and how it ties in with water quality. Following this is a section on analysing streamflow data, including using computer models and combining hydrology and ecology for in-stream flow assessment. A chapter on water quality shows how to measure and estimate it in a variable environment and finishes with a section on pollution treatment. The final chapter brings the text together to discuss water resource management and real-life issues that are faced by hydrologists in a constantly changing world.

Fundamentals of Hydrology is a lively and accessible introduction to the study of hydrology at university level. This new edition continues to provide an understanding of hydrological processes, knowledge of the techniques used to assess water resources and an up-to-date overview of water resource management in a changing world. Throughout the text, wide-ranging examples and case studies are used to clearly explain ideas and methods. Short chapter summaries, essay questions, guides to further reading and a glossary are also included.

Tim Davie is a research scientist working in the areas of land use change hydrology and Integrated Catchment Management in New Zealand. He is President of the New Zealand Hydrological Society and previously lectured in Environmental Science and Geography at Queen Mary College, University of London.

Environmental Science/Physical Geography

Cover image: The Evans/Wanganui River (New Zealand) in flood, January 2004.

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