

Revue des livres

Book Review

BONELL, M. & L. A. BRUIJNZEEL (EDS.), 2005. Forests, Water and People in the Humid Tropics: Past, Present and Future Hydrological Research for Integrated Land and Water Management. Cambridge University Press, xvii + 925 p., 22 × 28 cm, hardcover, US\$300.00, ISBN 0-521-82953-4.

Balancing the water needs of upland and downstream communities with the competing demands on forest resources and the environmental services they provide poses tremendous challenges. Conducting a dialog that includes all constituencies and disciplines is itself a daunting task. In *Forests, Water and People in the Humid Tropics*, Bonell and Bruijnzeel have assembled contributions to this dialog from the physical and social sciences in a volume that provides a comprehensive review of the hydrological and physiological functioning of forests in the humid tropics, and the hydrologic impacts of forest disturbance, management and conversion.

The book is based primarily on contributions to the 2000 symposium and workshop *Forests, Water and People in the Humid Tropics: Past Present and Future Hydrological Research for Integrated Land and Water Management* organized by the International Hydrological Programme (IHP) of UNESCO and the International Union of Forestry Research Organizations, and held in Kuala Lumpur, Malaysia.

Although more than four years passed between the conference and the book's publication, it succeeds in bringing together a breadth of research on the many scientific and policy-related fields related to forest hydrology and tropical land use issues that is not found elsewhere. Geographically, most tropical regions are well represented, with the notable exception of Africa.

The book is divided into five thematic sections which explore the relationships between the physical hydrology of forested landscapes, the environmental services that these forests provide, and the impacts of land use change. The individual chapters include both comprehensive reviews and case studies, resulting in chapters that differ greatly in their depth and scope. For the most part, chapter authors are recognized experts in their fields, often with decades of experience in the topics presented.

Part I of the book comprises nine chapters that examine the socio-economic aspects of land use change. A broad and detailed treatment of the physical hydrology of intact tropical forests is presented in Part II, which is by far the largest section of the book. In the review of runoff generation in forested tropical catchments, Bonell builds upon the conceptual framework for hydrologic flowpaths of Elsenbeer (2001). He includes additional field studies, and categorizes catchments with predominantly lateral flowpaths into four mechanistic groups. Several special cases of tropical forest hydrology are explored in chapters on tropical wetland forests and tropical montane cloud forests.

Part III presents the hydrologic impacts of forest disturbance, conversion and recovery. In Part IV, the use of new tools and methods for evaluating the effects of land-use change are considered. Part V presents best management practices related to forest and water resources of the humid tropics, including explorations of reduced impact logging and soil and water conservation practices for steep uplands.

The editors then conclude the book with a chapter summarizing the state of knowledge of the environmental impacts of deforestation and reforestation in the humid tropics. Especially useful from a policy perspective is the concluding chapter's evaluation of popularly held perceptions regarding the relationships between land use practices and water resources (e.g. reforestation and stream flow) in light of the state of scientific knowledge. The editors acknowledge the book's inadequate coverage of ground-water related issues, and lament the decline in global hydrological monitoring networks, especially in the humid tropics.

Given that tropical forest degradation and conversion show no signs of slowing appreciably in any region of the world (Chapter 1), the book

is likely to prove relevant to researchers, students and policy makers. However, at a cost of US\$300 (and weighing in at nearly 3 kg), the book will likely be confined to research libraries. This is a shame, especially considering the obvious utility of much of the book, and particularly the excellent concluding chapter. Also unfortunate is the lack of an index, which makes it cumbersome to explore common themes across different chapters of the book. In some cases, the cutting and pasting of figures from previously published journal articles has been done without the necessary information from the original source needed to interpret the data.

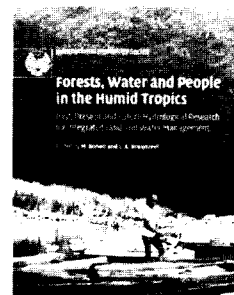
On the whole, the integration of tropical forest hydrology with its related policy and management issues makes this book a valuable contribution to the literature. As a logical follow-up to both Bonell *et al.* (1993) and Bruijnzeel (1990), it will likely become a definitive resource on the hydrology of humid tropical forests.

LITERATURE CITED

- Bonell, M., M. M. Hufschmidt & J. S. Gladwell, 1993. Hydrology and Water Management in the Humid Tropics: Hydrological Research Issues and Strategies for Water Management. International Hydrology Series. UNESCO, Paris.
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Burkhardt, R. W., Jr., 2005. Patterns of Behavior : Konrad Lorenz, Niko Tinbergen, and the Founding of Ethology. University of Chicago Press, xii + 636 p., 5 × 23 cm, softcover, US\$29.00, ISBN 0-226-08090-0.

THE ONTOGENY OF ETHOLOGY

Contemporary biology and psychology undergraduate curricula devote at least one course to the behaviour of animals. This was not always so and what Richard Burkhardt provides with this 636 page opus is a history of how this came to be. A history written by an historian of science that provides a refreshing change from the usual superficial accounts of many behaviour textbooks. What we have here is a successful attempt to integrate content and context. Burkhardt demonstrates that in order to understand the evolution of ethological theory (content) one must know of the everyday