Record Nr. UNINA9910298284503321 Autore Bren Leon Titolo Forest Hydrology and Catchment Management: An Australian Perspective / / by Leon Bren Dordrecht:,: Springer Netherlands:,: Imprint: Springer,, 2015 Pubbl/distr/stampa 94-017-9337-9 **ISBN** Edizione [1st ed. 2015.] Descrizione fisica 1 online resource (276 p.) 551.4 Disciplina 570 634.9 Soggetti Forestry Hydrogeology Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Description based upon print version of record. Note generali Nota di bibliografia Includes bibliographical references and index. Nota di contenuto Preface -- List of Symbols -- 1. The Basics of Catchment Hydrology --2. Hydrologic Measurements and the Water Balance -- 3. The Fundamental Building Blocks -First Order Catchments -- 4. Dynamics of Catchment and Slope Processes -- 5. Field Measurement of Water Use of Forests -- 6. Impacts of Native Forest Management on Catchment Hydrology -- 7. Hydrology of Man-Made Forests (Plantations) -- 8. Impacts of Burning on Catchment Hydrology and Management -- 9. Water Quality and Nutrient Issues for Small Catchments -- 10. Flooding Forests -- 11. Catchment Management Issues World-Wide -- Appendix 1: Map of Australia Showing Locations Mentioned in the Text -- Index. Sommario/riassunto For the last three centuries forests have been recognised as providing the best water catchments and valued for their sustained output of high quality water. The last century has seen the development of scientific knowledge on the hydrology of forests. In Australia, work which was commenced fifty years ago has come to fruition and is providing new information on the water yields of our forests and the factors that affect these forest values. The book particularly focusses on the issues

of small streams. These often un-named "foot soldiers" of the

hydrologic world are in an intimate relationship with their forest cover.

Issues of catchment definition, slope processes storing rainfall and producing runoff, flow variation with time, and annual water yield are covered. Recent results studies looking at the water yield of plantations and native forest are presented, sometimes with surprising results. Large rivers also have a role in forest hydrology since many major forests of the world depend on flooding from these for their survival. The section on flooding forests draws particularly on Australian experience in the River Murray but the issues of river regulation, competition for water, and impact on riparian forests outlined apply equally to any large river. The final chapter draws a large amount of information together to examine the management of forested catchments for water supplies. This book presents an incisive, disciplined, quantitative approach to dealing with forest hydrology matters. Although world-wide in application, the book particularly draws on Australian studies and Australian experience. It is written with the needs of students at the undergraduate or graduate level and forest practitioners in mind. The book is intended to provide for the needs of anyone with an interest in forest hydrology and complements studies in large-stream hydrology.