1. Record Nr. UNINA9910253918903321

Titolo	Hemispherical Photography in Forest Science: Theory, Methods, Applications [[electronic resource] /] / edited by Richard A. Fournier, Ronald J. Hall
Pubbl/distr/stampa	Dordrecht : , : Springer Netherlands : , : Imprint : Springer, , 2017
ISBN	94-024-1098-8
Edizione	[1st ed. 2017.]
Descrizione fisica	1 online resource (XII, 306 p. 47 illus., 6 illus. in color.)
Collana	Managing Forest Ecosystems, , 1568-1319 ; ; 28
Disciplina	333.7516
Soggetti	Forestry Optical data processing Remote sensing Natural resources Image Processing and Computer Vision Remote Sensing/Photogrammetry Natural Resources
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Preface -- Contributor biographer data -- Chapter 1. Introduction -- Chapter 2. Solar radiation in forests: theory for hemispherical photography -- Chapter 3. Measurement of forest structure with hemispherical photography -- Chapter 4. Acquiring hemispherical photographs in forest environments: from planning to archiving photographs -- Chapter 5. Image analysis of hemispherical photographs, algorithms and calculations -- Chapter 6. View angle-dependent clumping indices for indirect LAI estimation -- Chapter 7. Comparison of software tools for analysis of hemispherical photographs -- Chapter 8. Hemispherical photography in support of forest inventory and silviculture -- Chapter 9. Canopy architecture models in support of methods using hemispherical photography -- Chapter 10. Hemispherical photography for forestry: conclusions, applications, limitations, and implementation perspectives -- Index.
Sommario/riassunto	This book presents practical information about hemispherical photography from the perspectives of field data acquisition, image

processing and information retrieval methods. This book is organized into three sections. The first section describes what is hemispherical photography and what are the fundamental elements of forest structure and light interactions within the forest canopy. The second section provides practical information about the equipment, procedures and tools for procuring, processing and analyzing hemispherical photographs. Armed with this information, the third section describes several applications of hemispherical photographs to forestry and natural resource assessment. The book concludes with a discussion about modelling tools and future directions of this rapidly growing field. There is currently no information source on the market that has this comprehensive range of topics combined in a single book. The book will appeal to academics, graduate students, natural resource professionals and researchers alike.