Record Nr. UNINA9910253912503321 Autore Gavrikov Vladimir L Titolo Stem Surface Area in Modeling of Forest Stands / / by Vladimir L. Gavrikov Pubbl/distr/stampa Cham:,: Springer International Publishing:,: Imprint: Springer,, 2017 **ISBN** 3-319-52449-6 Edizione [1st ed. 2017.] Descrizione fisica 1 online resource (X, 100 p. 23 illus.) SpringerBriefs in Plant Science, , 2192-1229 Collana Disciplina 582.1603 Soggetti Forests and forestry **Ecology** Plant anatomy Plants - Development Forestry Theoretical Ecology/Statistics Plant Anatomy/Development Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Nota di bibliografia Includes bibliographical references at the end of each chapters and index. Nota di contenuto 1. Stem Surface Area as Subject of Study -- 2. Stem Surface Area: Measurement and Development -- 3. Self-thinning and Stem Surface Area -- 4. Stem Respiratory Rate and Stem Surface Area. Sommario/riassunto This book reveals the benefits of describing and modeling trees as the combined surface areas of their stems, and provides a concise overview of the fundamental grounds for adopting such an approach. Anatomically speaking, trees are largely thin sheaths of living cells and it is this understanding that has sparked growing interest in the study of stem surface areas in trees and stands. An overview of publications on analytical methods for the dynamics and structure of forest stands based on stem surface area is also provided. The approach described here gives readers a chance to rethink some models that were popular for decades, while also offering a glance into future research. The

application of a simple geometrical model of a forest stand has made it possible to reexamine a highly promising model, the self-thinning rule,

which has been a subject of a protracted discussion for the past few decades. Further, the analysis presented here can serve as the basis for predicting forest stand increments, a topic that calls for further development.