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Nota di contenuto	Chapter 1: Forests and global change -- Part I: Boreal forests and carbon dynamics in forest ecosystems -- Chapter 2: Global forests, with a focus on boreal forests -- Chapter 3: Dynamics of carbon in boreal forest ecosystems -- Part II: Carbon dynamics in boreal forest landscapes -- Chapter 4: Carbon in the shifting mosaics of forest landscapes -- Chapter 5: Carbon dynamics with links to growth and mortality of trees and ground vegetation -- Part III: Management of boreal forests for different ecosystem services -- Chapter 6:

Management for timber production and carbon sequestration -- Chapter 7: Soil management impacts on soil carbon -- Chapter 8: Reforestation with impacts on carbon stocks in boreal forest ecosystem -- Chapter 9: Impacts of precommercial management on forest carbon dynamics -- Chapter 10: Commercial thinning and selective cutting with impacts on forest carbon -- Chapter 11: Effect of fertilization on carbon in boreal ecosystems -- Part IV: Management of boreal forests for timber production and climate change mitigation -- Chapter 12: Carbon management for mitigating of climatic warming -- Chapter 13: Mitigation of climatic warming in forestry -- PART V: Management of carbon in boreal forests for timber and climatic benefits - overall review -- Chapter 14: Management of carbon in boreal forests for climatic benefits - overall review.

Sommario/riassunto

This book introduces the complex world of carbon dynamics within forest ecosystems, particularly in boreal zones, while also incorporating findings from selected temperate areas. It explores how these dynamics are influenced by management strategies and operations, providing a comprehensive understanding of how forests can be managed to enhance carbon uptake and thus, mitigate climate change. Divided into five parts, the volume begins by addressing the characteristics of global and boreal forests and their contribution to carbon storage. The following sections explore carbon dynamics in both natural and managed forests, including their impact on forest succession. The text also examines how management practices affect carbon dynamics, tree growth, and carbon stocks. Strategies to mitigate climate change through forest management, including the management of soil carbon and reforestation efforts are discussed. Finally, topics such as pre-commercial management, commercial thinning, and forest fertilization and their roles in managing boreal forest ecosystems for carbon sequestration and climate benefits are addressed. Aimed at professionals, researchers and students in forestry, environmental science, and climate change studies, this book provides valuable insights into developing management strategies that enhance carbon uptake and accumulation in forest ecosystems. Readers will gain a comprehensive understanding of how forest management can contribute to climate change mitigation. It is an essential resource for anyone interested in sustainable forestry practices.