

1. Record Nr.	UNINA9910676686403321
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Titolo	Boreal Forests in the Face of Climate Change : Sustainable Management // edited by Miguel Montoro Girona, Hubert Morin, Sylvie Gauthier, Yves Bergeron
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2023
ISBN	9783031159886
Edizione	[1st ed. 2023.]
Descrizione fisica	1 online resource (XLIX, 837 p. 178 illus., 157 illus. in color.)
Collana	Advances in Global Change Research, , 2215-1621 ; ; 74
Classificazione	SCI020000SCI026000SCI092000TEC003040
Disciplina	634.9 577.3
Soggetti	Forests and forestry Physical geography Ecology Environmental sciences - Social aspects Plant ecology Forestry Earth System Sciences Environmental Sciences Environmental Social Sciences Plant Ecology
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	1. Ecosystem Management of the Boreal Forest in the Era of Global Change -- 2. Millennial-Scale Disturbance History of the Boreal Zone -- 3. Natural Disturbances from the Perspective of Forest Ecosystem-based Management -- 4. Selected Examples of Interactions Between Natural Disturbances -- 5. Living Trees and Biodiversity -- 6. Deadwood Biodiversity -- 7. Embracing the Complexity and the Richness of Boreal Old-Growth Forests: A Further Step Toward Their Ecosystem Management -- 8. Ecological Classification in Forest Ecosystem Management: Links between Current Practices and Future Climate Change in a Québec Case Study -- 9. Changes in Water Status and Carbon Allocation in Conifers Subjected to Spruce Budworm

Defoliation and Consequences for Tree Mortality and Forest Management -- 10. A Circumpolar Perspective on the Contribution of Trees to the Boreal Forest Carbon Balance.

Sommario/riassunto

This open access book explores a new conceptual framework for the sustainable management of the boreal forest in the face of climate change. The boreal forest is the second-largest terrestrial biome on Earth and covers a 14 million km² belt, representing about 25% of the Earth's forest area. Two-thirds of this forest biome is managed and supplies 37% of global wood production. These forests also provide a range of natural resources and ecosystem services essential to humanity. However, climate change is altering species distributions, natural disturbance regimes, and forest ecosystem structure and functioning. Although sustainable management is the main goal across the boreal biome, a novel framework is required to adapt forest strategies and practices to climate change. This collaborative effort draws upon 148 authors in summarizing the sustainable management of these forests and detailing the most recent experimental and observational results collected from across the boreal biome. It presents the state of sustainable management in boreal forests and highlights the critical importance of this biome in a context of global change because of these forests' key role in a range of natural processes, including carbon sequestration, nutrient cycling, and the maintaining of biodiversity. This book is an essential read for academics, students, and practitioners involved in boreal forest management. It outlines the challenges facing sustainable boreal forest management within the context of climate change and serves as a basis for establishing new research avenues, identifying future research trends, and developing climate-adapted forest management plans.