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Abstract

This book is intended for undergraduate and graduate students studying issues related to the atmospheric environment. It is well known that climate has a major impact on the human and natural environment, as it shapes a complex framework of environmental, anthropological, and economic factors. The atmosphere also plays a decisive role in the development and management of natural resources. It should be emphasized that forests—and forest ecosystems in general—cover approximately 30 percent of the planet's surface and are a renewable natural resource of enormous ecological and economic importance, as they produce valuable products and provide important services to humans. The interactive relationship that develops between forests and the atmospheric environment is described by a dynamic equilibrium, which is of paramount importance. Indicatively, the sequestration

of carbon dioxide and the production of oxygen, the absorption of various air pollutants from the atmosphere (sulfur dioxide, nitrogen oxides, etc.) from industry, transportation, and other human activities, the contribution to combating global warming, and the special role in maintaining water balance are just some of the aspects that highlight the critical role of this relationship. Forest meteorology and climatology, which deal with the interactions of forest ecosystems with the atmospheric environment, provide the necessary knowledge for the proper management of forests and for the creation of favorable conditions for plant growth and development. The impact of climate on forestry touches almost all areas of knowledge, from soil formation and plant growth to the prevention and management of natural disasters such as floods and forest fires.



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