Forest Fire Danger Prediction Using Deterministic-Probabilistic Approach

Part of the Advances in Environmental Engineering and Green Technologies Book Series

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Description:

Forest fires cause ecological, economic, and social damage to various states of the international community. The causes of forest fires are rather varied, but the main factor is human activity in settlements, industrial facilities, objects of transport infrastructure, and intensively developed territories (in other words, anthropogenic load). In turn, storm activity is also a basic reason for forest fires in remote territories. Therefore, scientists across the world have developed methods, approaches, and systems to predict forest fire danger, including the impact of human and storm activity on forested territories. An important and comprehensive point of research is on the complex deterministic-probabilistic approach, which combines mathematical models of forest fuel ignition by various sources of high temperature and probabilistic criteria of forest fire occurrence.

Forest Fire Danger Prediction Using Deterministic-Probabilistic Approach provides a comprehensive approach of forest fire danger prediction using mathematical models of forest fuel with consideration to anthropogenic load, storm activity, and meteorological parameters. Specifically, it uses the deterministic-probabilistic approach to predict forest fire danger and improve forest protection from fires. The chapters will cover various tree types, mathematical models, and solutions for reducing the destructive consequences of forest fires on ecosystems. This book is ideal for professionals and researchers working in the field of forestry, forest fire danger researchers, executives, computer engineers, practitioners, government officials, policymakers, academicians, and students looking for a new system to predict forest fire danger.
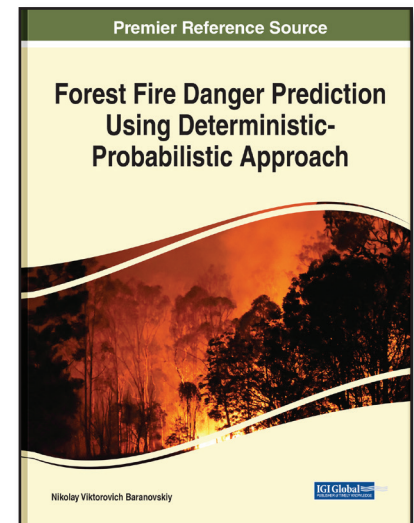
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Topics Covered:

- Anthropogenic Load
- Deterministic-Probabilistic Approach
- Fire Prediction
- Forest Fires
- Forest Fuel Ignition
- Forestry
- Mathematical Modeling
- Probability Prediction
- Risk Analysis
- Simulations
- Storm Activity
- Tree Ignition

Subject: Environmental, Agricultural, and Physical Sciences

Classification: Authored Reference

Readership Level: Advanced-Academic Level (Research Recommended)

Research Suitable for: Advanced Undergraduate Students; Graduate Students; Researchers; Academicians; Professionals; Practitioners