Abstract Oral Presentations

Keynote Speech given by Kadir Alperen Coskuner

Importance and Use of Decision Support Systems in Fire Management

Kadir Alperen Coskuner*, Ertugrul Bilgili

Karadeniz Technical University, Faculty of Forestry, Trabzon, Türkiye
*e-mail: kacoskuner@ktu.edu.tr

Abstract

Forest fires cause significant damage to thousands hectares of forested lands at worldwide scale not being able to benefit from many products and services depending on forests, and even loss of lives and property. Therefore, many countries suffering from forest fires have constituted their fire management organizations. These organizations require accurate, timely and readily available information to be successful in fire suppression and develop sound strategies. To acquire and make this information available to fire management organization, a sound decision support system is necessary. Computer-based decision support systems have been successfully used especially in the Canada, USA and Australia and are being implemented in many other countries. More than fifty-five percent of the forested lands in Türkiye is under the threat of forest fires and there have been some endeavours to establish fire danger rating systems as a decision support system in the country. As a result of these studies, a web-based prototype Turkish National Fire Danger Rating (TOYTOS) decision support system was developed. The developed system differs from similar systems with its genuine dynamic fuel moisture and fire spread models, enabling fire suppression options in a fire simulation with land and air vehicles as well as back burning operations and producing spatial maps after a fire to determine the fire effects. The objective of this study is to review the operationally used decision support systems in fire management organizations at global scale and the use of prototype TOYTOS software in some fires in Türkiye. The results of this study will have potential to help fire managers in decision making process in pre-and post-fire situations as well as fire suppression operations.

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