EMERGING METHODS FOR EARLY DETECTION OF FOREST FIRES

INTRODUCTION:

We can hear about large scale forest fires in the media from several areas of the European Union almost every year. A large forest fire causes a serious impact on the environment, determining its future for decades. Prevention of forest fires is one of today's most important tasks as well as appropriate preparedness for effective fighting against them. To do so, it is vital to have detailed knowledge on the charac-teristics of different forest types and their environment, their ecosystems and food-chains, and technical information on the properties of forest fires and their effects on the different elements of the environment and lessons learned from previous cases.Based on gathered information of past events authors have provided a complete system of forest fire categories by their size, type, risks and consequences. We in-vestigated the detailed impacts of forest fires on the different elements of the envi-ronment.The content of this paper may help the work of the sylviculturists and other agrari-an experts involved in the rehabilitation processes of forest ecosystems after large-scale forest fires.

LITREATURE SURVEY:

Forest fires have been and still are serious problem for theEuropean Union and for all other countries in Europe. In the year 2000, the EU has established the European Forest Fire Information system (EFFIS) [1], which will soon become part of the European Emergency Management Service, maintainedby the Copernicus Earth Observation Programme [2]. This system provides valuable near real-time and also historical data on the forest fires in Europe, the Middle East and North
Africa. Currently EFFIS is being used and supported with data by 25 EU member states and by numerous other countries. According to the annual report of EFFIS for 2016 [3], more
than 54 000 forest fires have occurred all around Europe and they have led to nearly 376 thousand hectares of burnt areas.If we compare these values to the average values from the
EFFIS reports for the period 2006-2015, the number of forest fires have decreased by 13327 or by nearly 20%. This decrease can be explained with the more severe actions and sanctions towards the arsonists and with the introduction of more advanced technical solutions for early detection of the fires. Even though their number is decreasing, the forest fires continue to be extremely devastating events and they have destroyed just 27 thousand hectares (or 6.6 %) less than the
average burnt areas for the period 2006-2015, according to [3].
Confirmation for this are the devastating forest fires form 2018, which took place in the Attica region of Greece and led to more than 90 fatalities and to more than 200 injured people,as well as to the destruction to thousands of buildings [4].

Forest Fires can be divided into 4 categories in the forests of Hungary based on tree and other vegetation species:
• underground burning, peat fire;
• fire in undergrowth or dead fallen leaves;
• fire in seedlings and saplings;
• fire in trunks and shrouds.[5]

REFERENCES:

[1]   Official webpage of the European Forest Fire Information System at:

http://effis.jrc.ec.europa.eu/

[2]   Official webpage of the Copernicus Earth Observation Programme at:
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