

Forest fires in Hungary

2015.

(Reported by: National Food Chain Safety Office, Forestry Directorate)
Peter Debreceni and Daniel Nagy



Fire danger in 2015 fire season in Hungary

FWI derived data and values were reported throughout the whole fire season by Forestry Directorate (FD). FD has been using JRC's data service to monitor the daily fire danger situation.

Forest fire hazard strongly depends on weather conditions. There were only one extreme weather situation in 2015. A short moderate endangered period was in mid of March when most of small fire arise. During summer there was a longer drought period when two large crown fires were burnt same time in the Great Hungarian Plain although a fire ban was ordered by Ministry of Agricultural for whole country.

Apart from high endangered period there were some short days when the FWI values reached the "extreme" level in summer.

Fire occurrences and affected surfaces

Forest fires data are collected in a strong cooperation with disaster management authority. Data collected on the spot by fire fighters are uploaded to the database weekly and if needed it can be done day-to-day. Forest fires data are prepared and analysed with an automated GIS method and checked on the spot by forest authority.

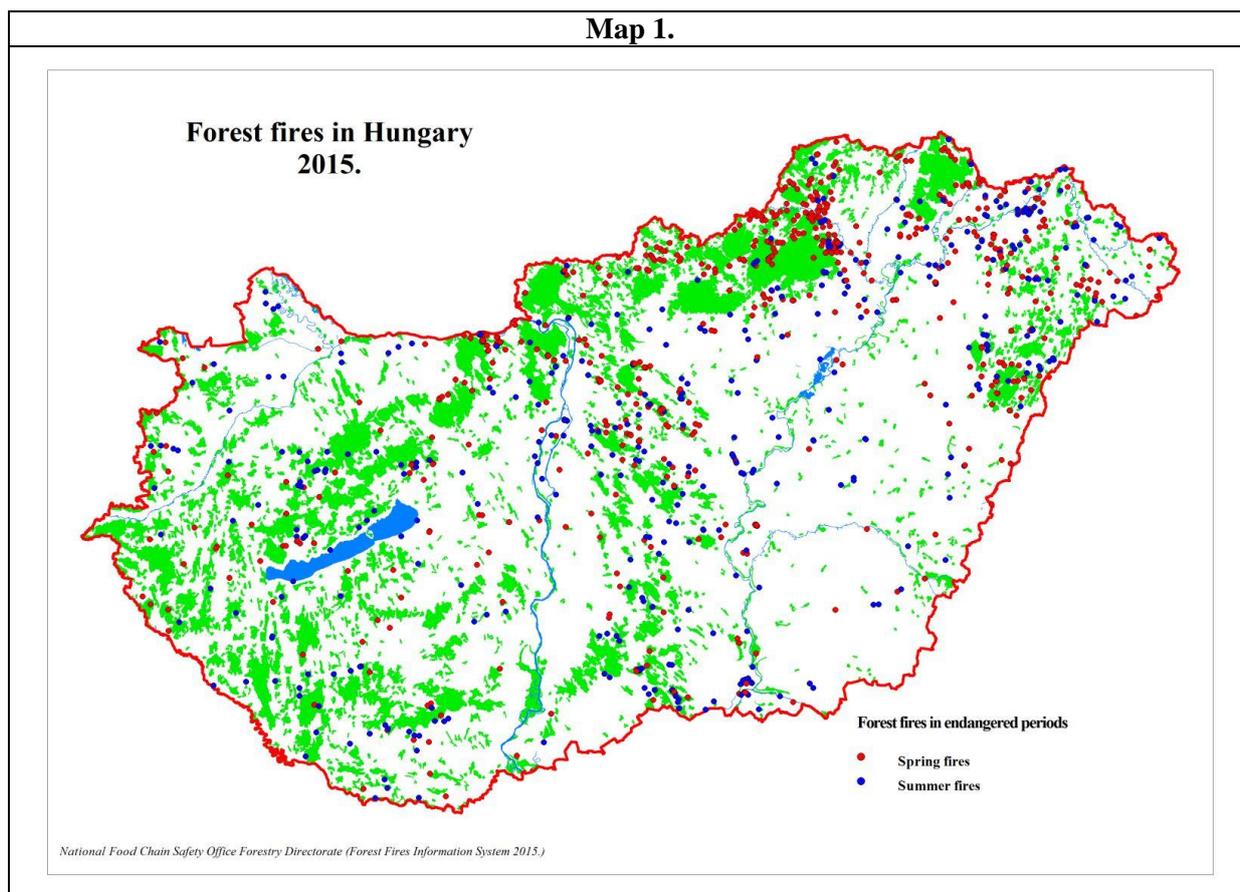
Gathered fire data are processed and evaluated by size, date, cause, duration of fires and they are compared with traditions in forest management processes and behaviour of visitors and hikers in forest land area.

Year	Number of wildfires	Forest fires in Hungary		Wildfires in other land
		Number of fires	Total burned area (ha)	Number of fires
2011	8.436	2.021	8.055	6415
2012	21.581	2.657	14.115	18.924
2013	4.602	761	1.955	3.841
2014	5.783	1.042	4.454	4.741
2015	5.318	1.069	4.730	4.249

Total of 1.069 forest fires were reported with a total burnt area of 4.730 ha in 2015. The number of fires and the total burnt area have same values compared to previous two years, as you can see in Table 1. The reasons can be found in climate extremities, agricultural and forest management methods and especially socio-economic circumstances.

The worst affected regions were north part of Hungary close to agricultural areas and Great Plan in mid of country, in which more than 30% of forest fires occurred. Map 1. shows places of forest fires in Hungary in endangered periods of the year.

Map 1.



98% of forest fires are surface fires, as you can see down below in Table 2. Surface fires, when surface litter and other dead vegetal parts and smaller shrub burn have been common in Hungarian forests.

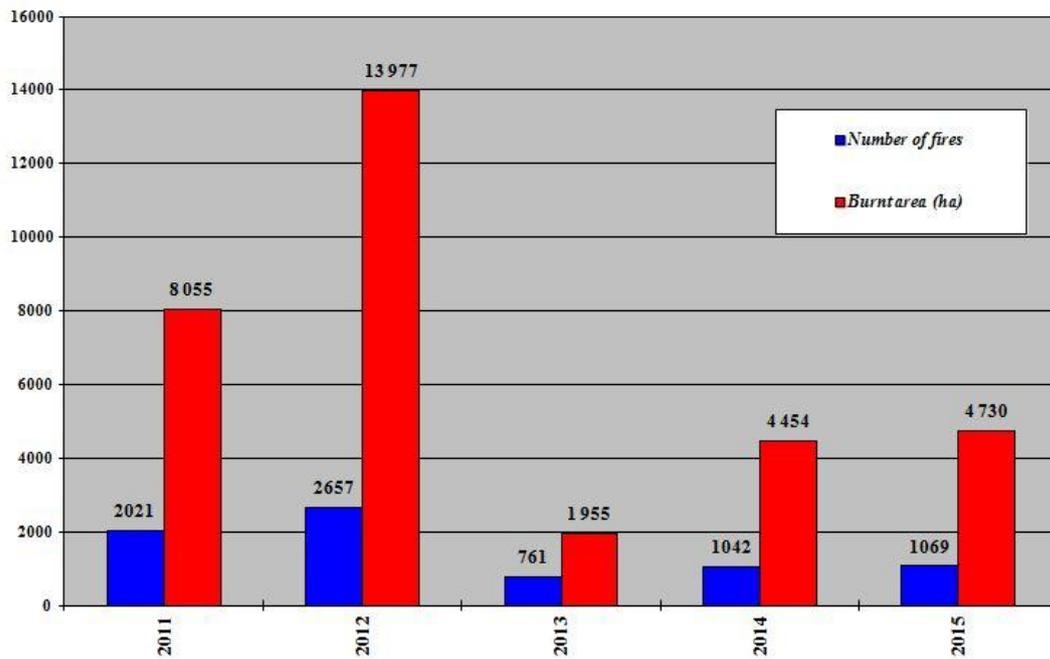
They can develop in whole fire season. Canopy fires mostly develop in coniferous forests in summer period. Ground fire is not significant in Hungary.

Type of forest fire	Number of fires	Total burnt area (ha)
Ground fires	2	6
Surface fires	1065	3795
Crown fires	2	929
Total	1069	4730

The average rate of fires smaller than 1 hectare is almost 62%. Small fires are usually low intensity surface fires where dry grass and small twigs are burning. The average total burnt area was 4,4 hectares in 2015, which is similar than in previous years. In 2015 there were only 18 fires events when more than 50 hectares and six fire events where more than 100 hectares were burnt. In most cases about 30% of the total burnt area is forest stand.

Figure 1.

*Number of forest fires and burnt area
2011 - 2015*

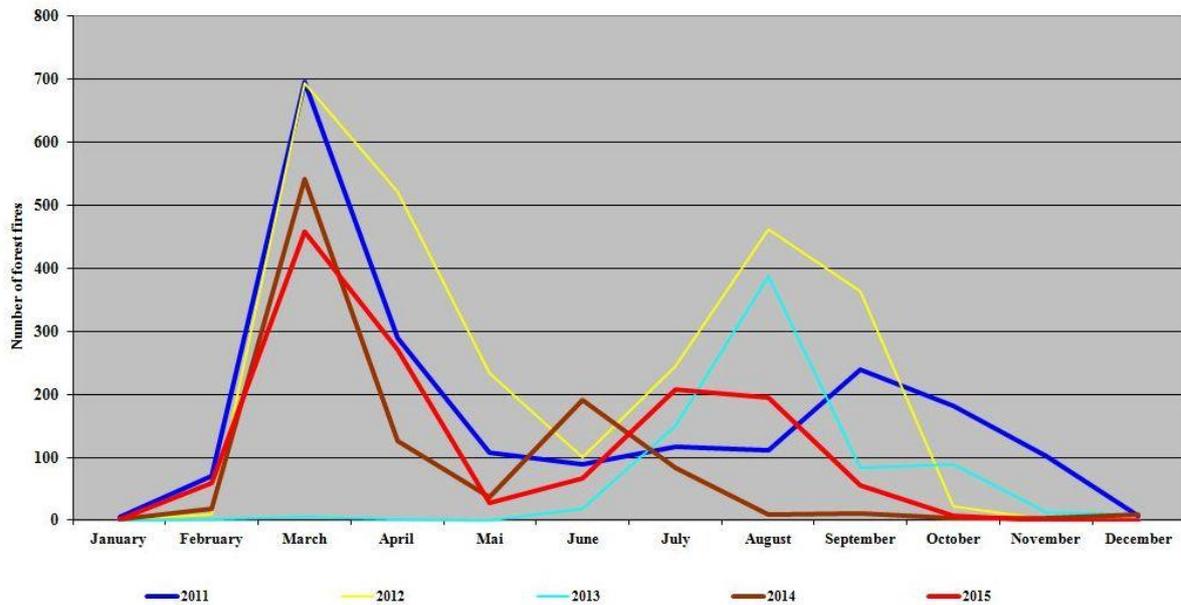


99 % of forest fires are human induced (negligence or arson). Most fires are induced by (adults' and infants') negligence and only a small proportion of fires are caused by arsonists. Typical forest fire causes are the incorrectly extinguished fires of hikers, and the illicit agricultural fires, throwing cigarette butt and sometimes slash burning.

Figure 2. represents the tendencies experienced in latest years that there are two most endangered forest fire periods during every year.

Figure 2.

Number of forest fires per month 2011 - 2015.



“Traditional” grassland use includes burning methods in early spring, which can accidentally spread to nearby forest. These fires usually burn between February and April, after snow-break. Though burning has lost its importance by these days, it prevails as a traditional early spring grassland management method. Negligently lighted and unattended grass land fire may spread forest lands nearby. Vegetation is not green yet in this period of the year, and in addition a great sum of dry leaves and dry herbs is located on the ground, that can easily burn in flames.

Although we can report the total burnt area reached a high values in the past few years, we can say there were only surface fires which could not cause serious damage in forests stands.

Spring vegetation fires usually burn with low or medium intensity in broadleaf forests, juvenile growths, shrubs and grasslands. Fire totally or partially consumes forests and causes serious harms. 40-45 % of spring fires burn in northern areas (Borsod-Abaúj-Zemplén County, Heves County, Nógrád County) which indicates these areas as high forest fire danger zones. In these areas not only traditional grassland management methods, but other social-economic factors add to forest fire danger.

Unlike spring fires, summer fires usually burn in the Great Hungarian Plain.

Studying the statistics we can see that total of 1602 hectares of forest land were burned or affected by fire during 2015. In addition, more than 2.371 hectares of grass vegetation and 757 hectares of bush vegetation were destroyed in forest fires. (Table 3.)

Table 3.	
Burnt fuel types in forest fires	Total burnt area (ha)
Forested land	1602
Other wooded land	757

Other land	2371
Total:	4730

Fire fighting means

Fires were usually extinguished in less than an hour after alarming. Fire service arrived to fire in 30 minutes in average. Small fires are extinguished within half an hour.

There were no casualties among fire fighters and civilian people during fire fighting in 2015. Fire service equipment was not heavily damaged. No death or personal injury occurred during fire fighting last year. Neither Fire Service nor Forest Authority served mutual assistance last year.

Fire prevention activities and fire information campaign

There is a cooperation agreement between Fire Service and Forest Authority. National Fire Prevention Committee established by the government has been monitoring all fire prevention activities.

Forest fire prevention activities are implemented by forest authority in the frame of a FIRELIFE project. Our project started in 2014 which is the first one in Hungary, which won the support of LIFE “information and communication” programme. Project duration is 2014-2018.

The project is aiming to enhance effective, proactive and continuous forest fire prevention activity in Hungary. As 99% of forest fires are human caused in our country, targeted and on time communication can effectively cut the number of forest fires. The active communication on forest fires attracts greater media which can significantly help to reach the aims of the project.

The key goal of the project is to disseminate useful and adequate information to the public on forest fire prevention. Our strategy includes two main fields: communication campaigns using PR and marketing tools and trainings.

Every items of communication campaigns helped in reaches upper goals through 2015:

- our participation in countrywide and regional information events with FIRELIFE adventure course, reaching the target groups of children, of wilder public, of farmers, hobby gardeners and that of smokers;
- contact with the media through workshops, press releases, with the help of publishing articles in the relevant offline media in order to reach the people on country and on regional level as well;
- participation in workshops and conferences organized for teachers, pre-school teachers and social workers, farmstead caretakers with giving presentations and short trainings on forest fires and prevention;
- direct communication with those target groups which can be involved more deeply through personal contact, for example the farmstead owners and hikers;
- online information transfer and campaigns with the help of our website, of our FB profile and through the FB profile of NÉBIH;
- the use of audiovisual tools by preparing a short educational film on forest fires;
- preparation of printed publications especially for the target group of children;
- putting in place of information boards, preparatory work of A1 placards and A5/LA4 leaflets;
- building of professional and mutually beneficial cooperations with professional organizations and enterprises, through which we can reach our target group.

FIRELIFE project website: www.erdotuz.hu