

Forest fires in Hungary

2018

(Reported by: National Food Chain Safety Office, Forestry Directorate)

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Fire danger in 2018 fire season

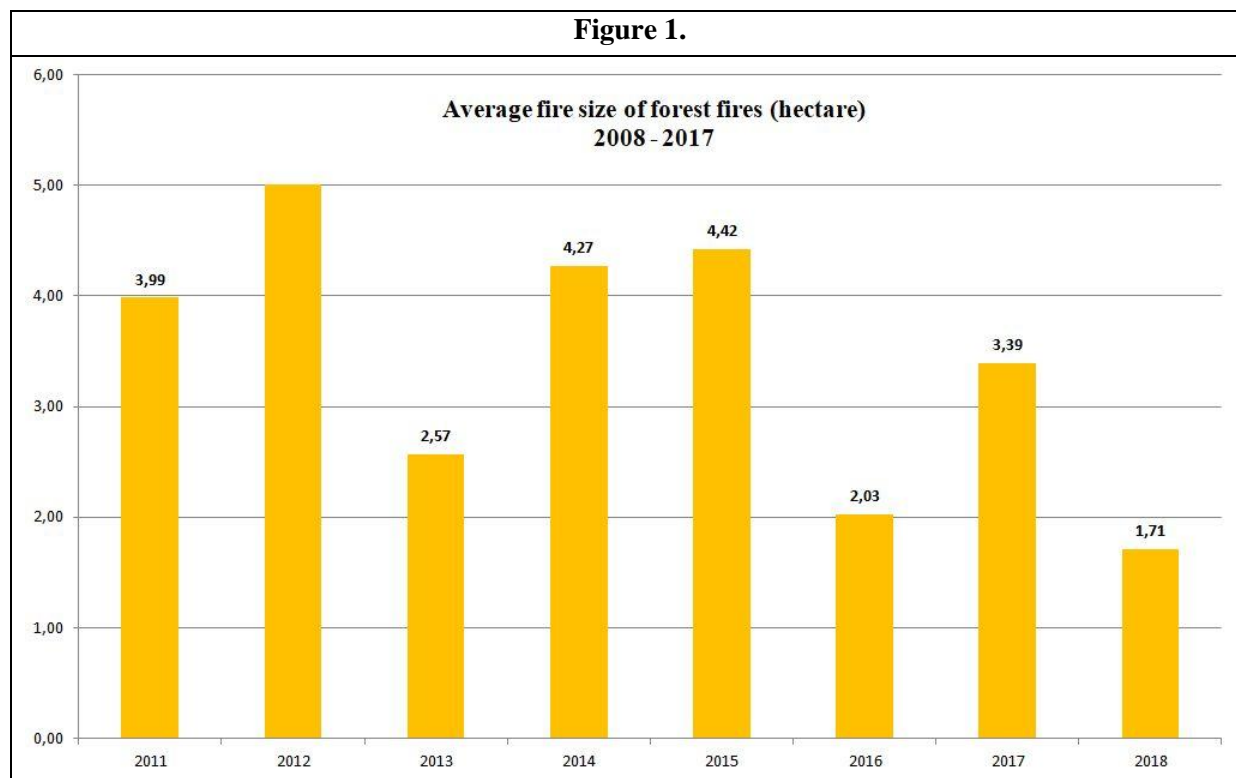
FWI derived data and values were reported throughout the whole fire season by Forestry Directorate (FD). FD has been using JRC's data service to monitor the daily fire danger situation. Compared to previous years February and March were wetter than average. In March, almost every day was rainfall, several times snowfall. The rainy period lasted until the mid of April, which reduced the fire danger. From mid of April that time a dry period started, so that fire danger increased causing a lot of fire events. High endangered period shifted to mid of April this year. There were several rainy days in May, and June, so there was no significant fire danger. Because of the uneven distribution of precipitation in the second part of summer there were a longer period, when the FWI values reached the high level in August. Regional fire ban was ordered 14 times during summer and they took for 45 days on the whole.

Fire occurrences and affected surfaces

Forest fires data are collected in a close cooperation with disaster management authority. Data collected on the spot by fire fighters. They uploaded to the database weekly but if it necessary they can collect it day by day. Forest fires data are produced and analysed with a GIS method and checked on the spot by forest authority. Gathered fire data are processed and evaluated by size, date, cause, duration of fires. They are compared with traditions in forest management processes and behaviour of visitors and hikers in forest land area.

Table 1.				
Year	Number of wildfires	Forest fires		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
2016	2.677	452	974	2.225
2017	7.122	1454	4.933	5.668
2018	2.981	530	906	2.451

906 hectares were affected by 530 forest fires in Hungary in 2018. Compared to previous years, the number and burnt area of fires has been halved. The reasons can be found in rainy periods of Spring and active communication on forest fires prevention in our FIRELIFE project.

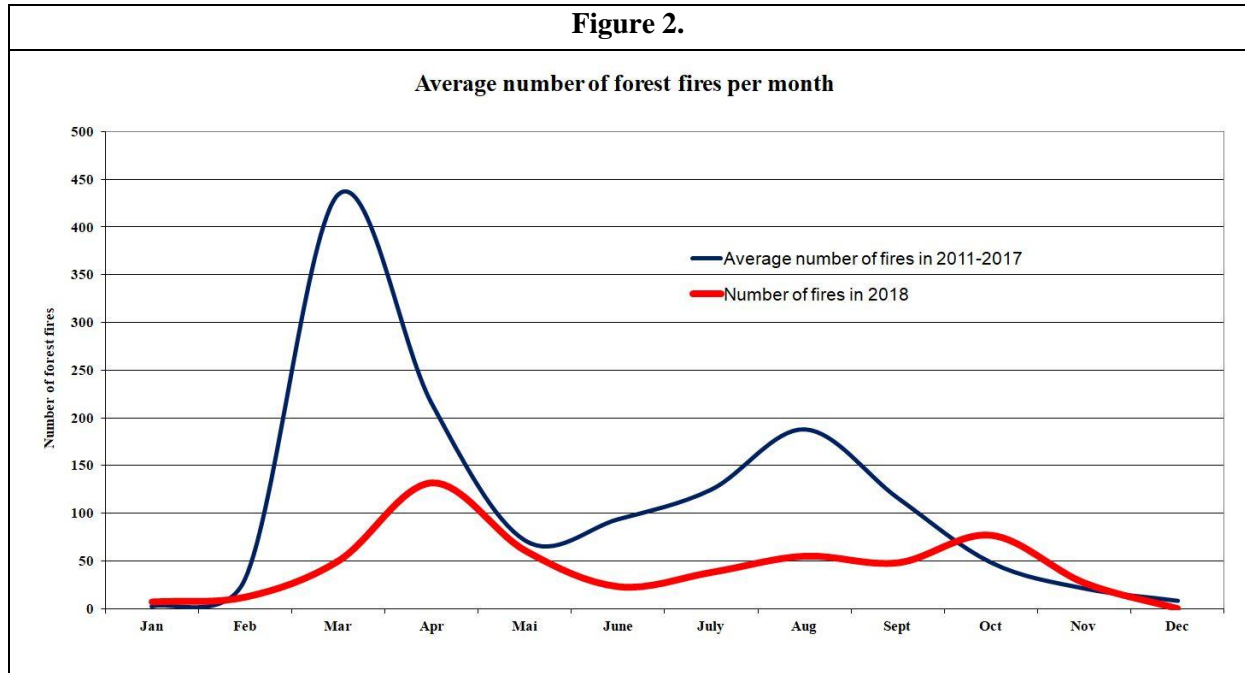


98% of forest fires were surface fires in 2018 fire season, when surface litter and other dead vegetal parts and smaller shrubs burnt down. The average rate of fires smaller than 1 hectare is almost 72 %. There was no large fire in 2018. The average total burnt area was 1,7 hectares in 2018. (figure 1.) There was only 1 fire event where more than 50 hectares were burnt but it did not damage forest land area. (table 2.)

Table 2.		
Classification of burnt area	Number of forest fires	Burnt area (hectare)
less than 1 ha	384	122
1 – 50 ha	146	784
50 – 100 ha	0	0
100 – 500 ha	0	0
more than 500 ha	0	0
Total:	530	906

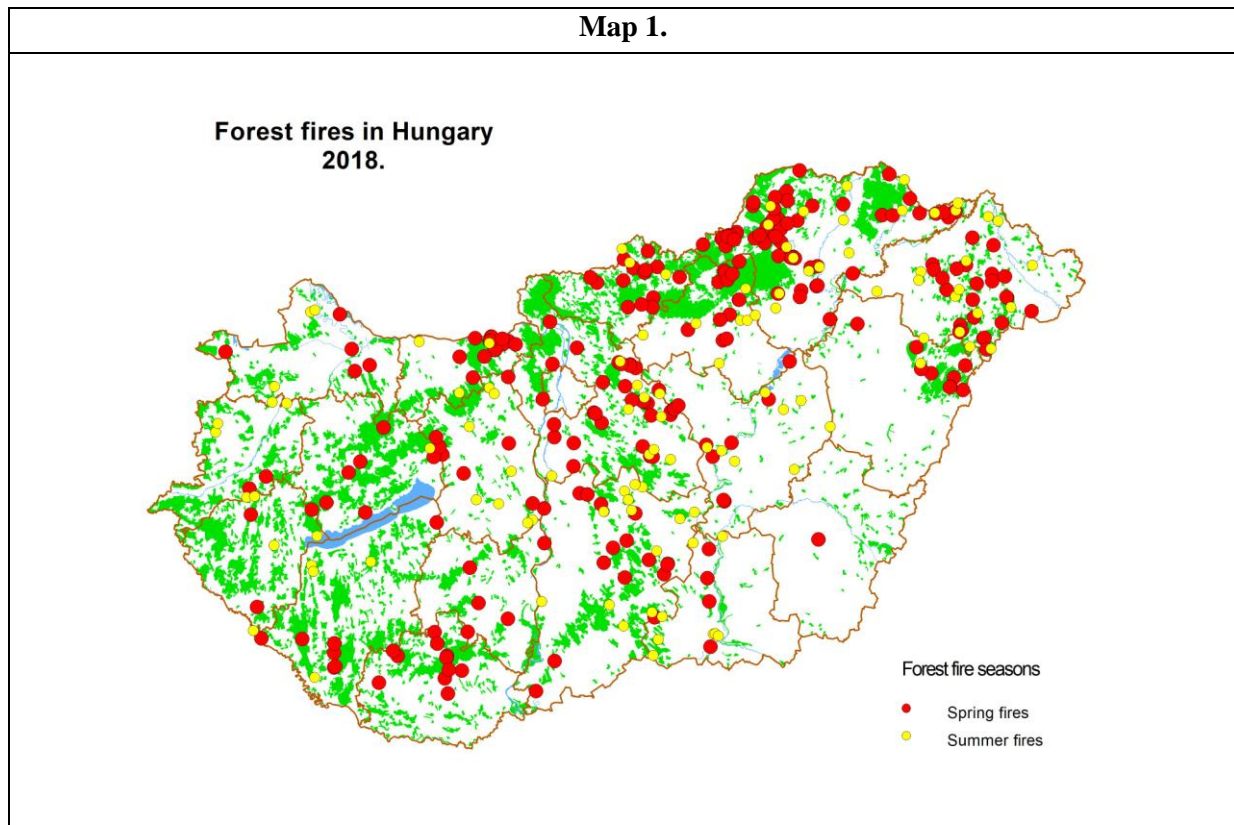
Compared with previous years fire events in 2018 show same trend over several years. Figure 2. represents the tendencies experienced in last 10 years that there are two most endangered forest fire periods during every year. Due to rainy weather period in March the high endangered period shifted to April this year. (figure 2.)

Figure 2.



Traditional using of grassland includes burning methods in early spring, which can accidentally spread to nearby forest. These fires usually burn between March and April. 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. 37 % 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. Map 1. shows places of forest fires in Hungary in endangered periods of the year.

Map 1.



The yearly trends in terms of number of fires and burnt areas between 2011 and 2018 are shown in Figure 3. and Figure 4.

Figure 3.

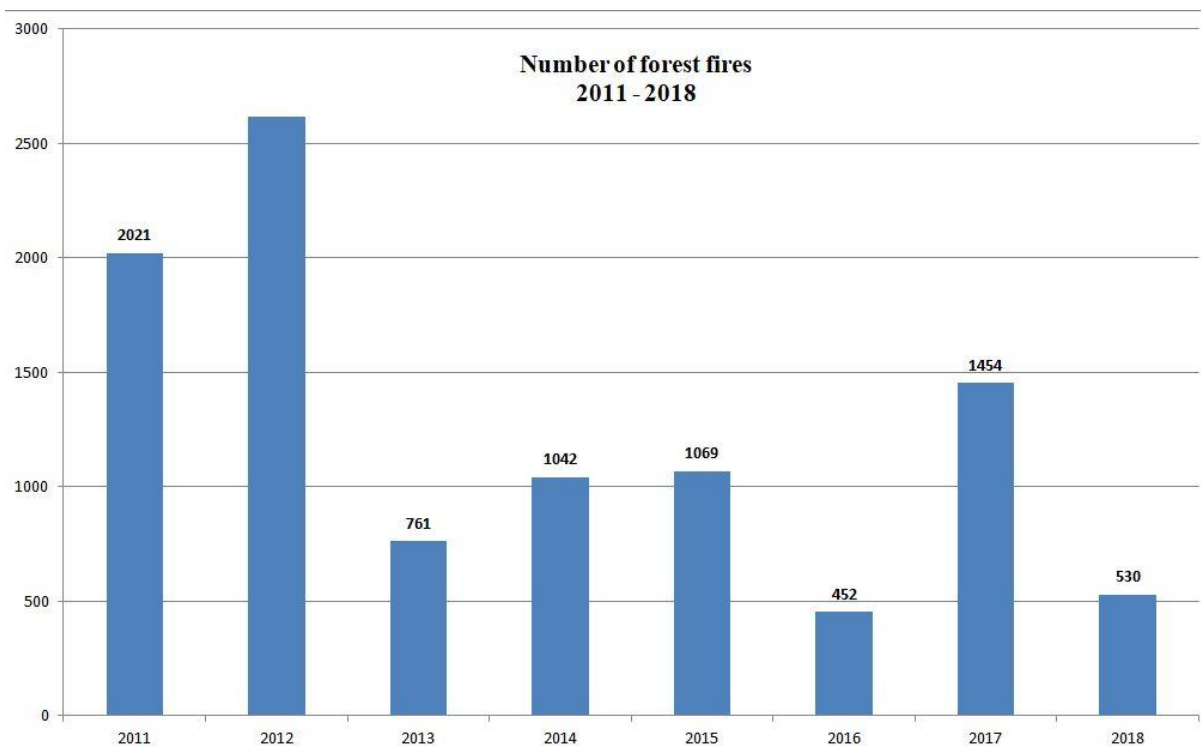
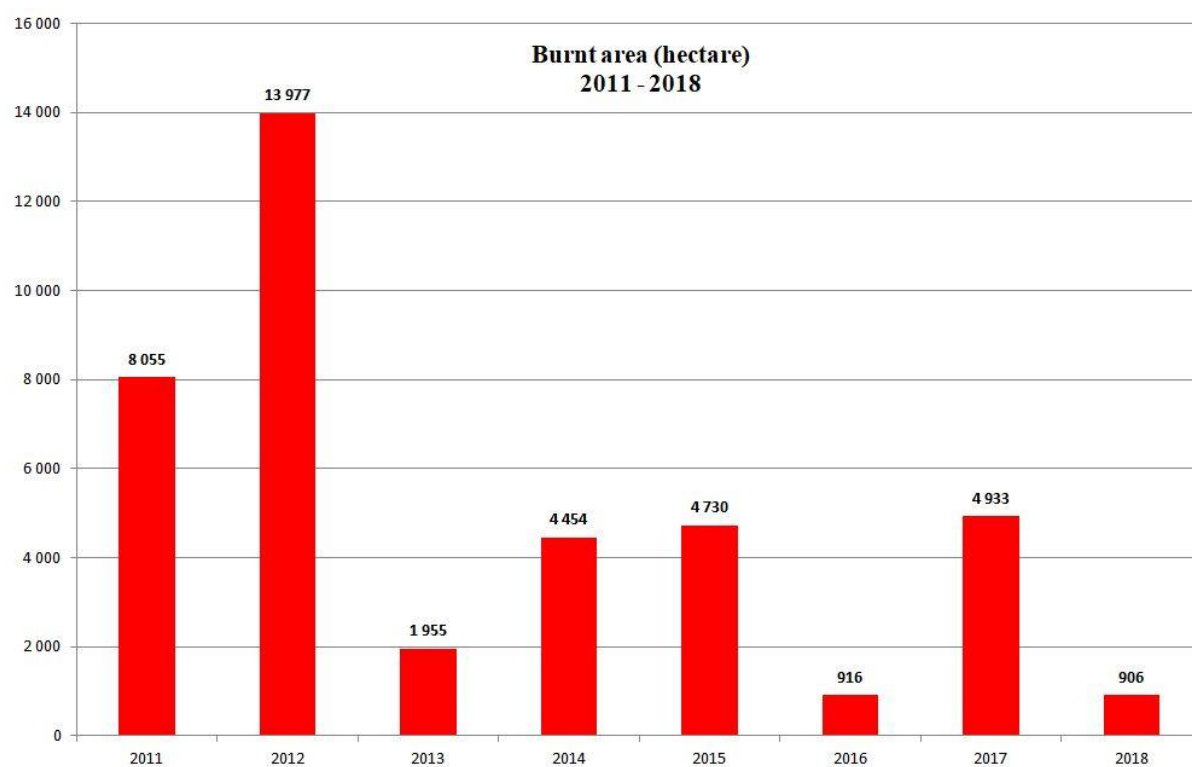


Figure 4.



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.

Analyzing the statistics we can see that total of 276 hectares of forest land were burned or affected by fire during 2018. In addition, more than 459 hectares of grass vegetation and 171 hectares of other wooded land were destroyed in forest fires. (Table 3.)

Table 3.	
Burnt fuel types in forest fires	Total burnt area (ha)
Forested land	276
Other wooded land	171
Other land	459
Total:	906

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 2018. 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.

The aim of the project to enhance effective, proactive and continuous forest fire prevention activity in Hungary. The key goal of the project is to disseminate useful and adequate information to the public on forest fire prevention.

Every items of communication campaigns helped in reaches upper goals through 2018:

- our participation in countrywide and regional information events with FIRELIFE adventure course, reaching the target groups of children, wilder public, farmers, hobby gardeners and smokers – 22 days;
- 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 – 41 online appearances;
- direct communication with those target groups which can be involved more deeply through personal contact, for example the farmstead owners and hikers – 77 days;

- online information transfer and campaigns with the help of our website, our and NÉBIH Facebook profile;
- 1.500 pieces of storybook and sticker booklet were sent for students and kindergarten children.
- 100 forest fire prevention experts with higher education degree and 150 forestry engineering, nature conservation engineering and forest fire officer university students have attended our trainings in 2018

Compared to 2012, the number and area of fires fell to 1/3 by the end of the project period, despite the fact that in 2018, both the number of fire-risk days and the extent of fire hazard area were about 20 percent higher than in 2012 in Hungary and Europe. the communication project drew attention to the forest fire problem and restarted many fire prevention processes that had been abandoned. For example, the use of controlled burning as a biomass management tool has become possible again. On the basis of the information received during the implementation of the project, we have improved the fire prohibition system, which now operates more flexibly and faster, using forest fire indices calculated by the EU JRC. Daily updated fire-prevention maps have been placed on the project's website, where related leaflets can be accessed immediately. Many people have learned that forest fire in Hungary is also a growing risk that originates from human causes, and that it is not just something you see on TV, but which could also happen nearby.

FIRELIFE project website: www.erdotuz.hu

(Source: National Food chain Safety Office, Forestry Directorate)