

## Forest fires in Hungary

2013.

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



### Fire danger in 2013 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 some extreme weather situations in 2013. We may characterize the first five months of 2013 with lots of rain. From June a drought period started which lasted throughout until the end of August. Both extreme weather conditions influenced the whole fire season and fire situation.

Fire danger started to rise in June but didn't reach the "very high" level last year. There were some short periods (days) when the FWI values reached the "extreme" level in summer. So regional fire bans were ordered nine times by the Forestry Directorates.

### 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.

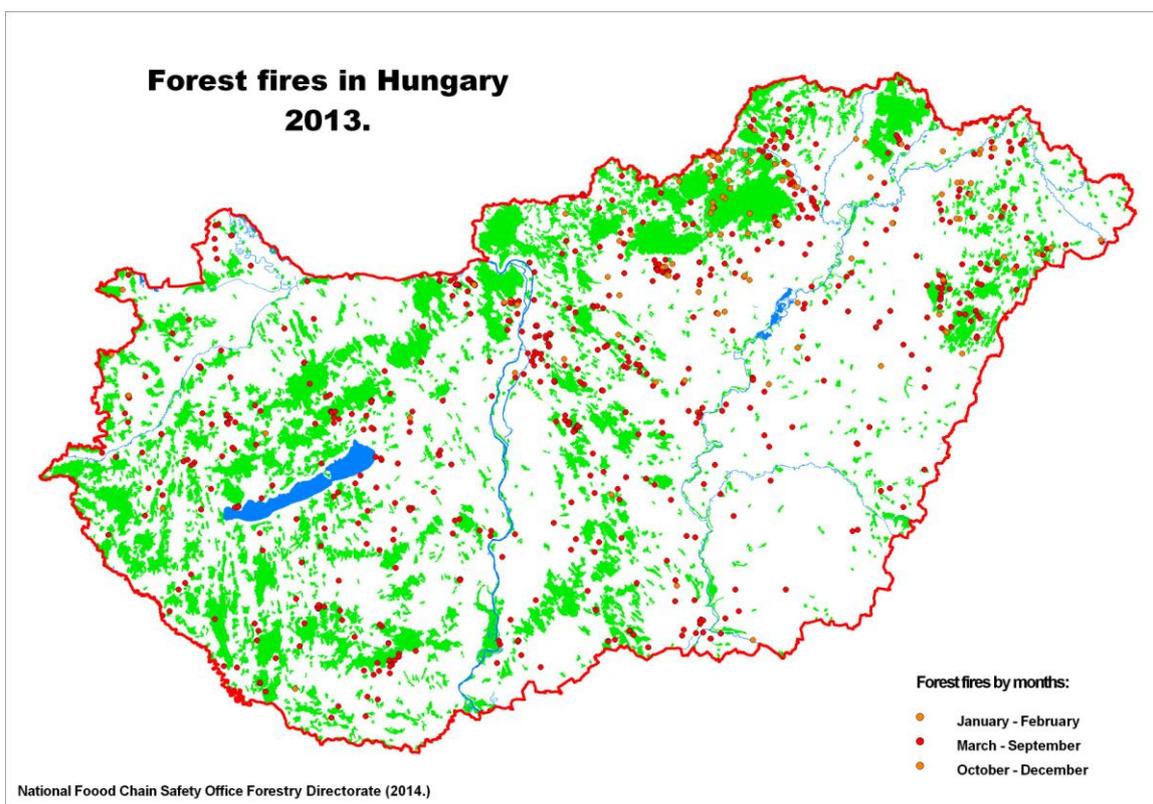
Gathered fire data are processed and evaluated by size, date, cause, duration of fires and they are compared with traditions in forest management processes and behaviour of visitors and hikers in forest land area.

Year	Number of wildfires	Forest fires in Hungary		Wildfires in other land
		Number of fires	Total burned area (ha)	Number of fires
<b>2007</b>	6.691	603	4.636	6088
<b>2008</b>	6.639	502	2.404	6137
<b>2009</b>	8.658	608	6.463	8050
<b>2010</b>	3.120	109	878	3011
<b>2011</b>	8.436	2.021	8.055	6415
<b>2012</b>	21.581	2.657	14.115	18.924
<b>2013</b>	<b>4.602</b>	<b>761</b>	<b>1.955</b>	<b>3.841</b>

Total of 761 forest fires were reported with a total burnt area of 1955 ha in 2013. The number of fires and the total burnt area were lower 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 Plain in mid of country, in which more than 40% of forest fires occurred. Map 1. shows places of forest fires in Hungary in different seasons of the year.

Map 1.



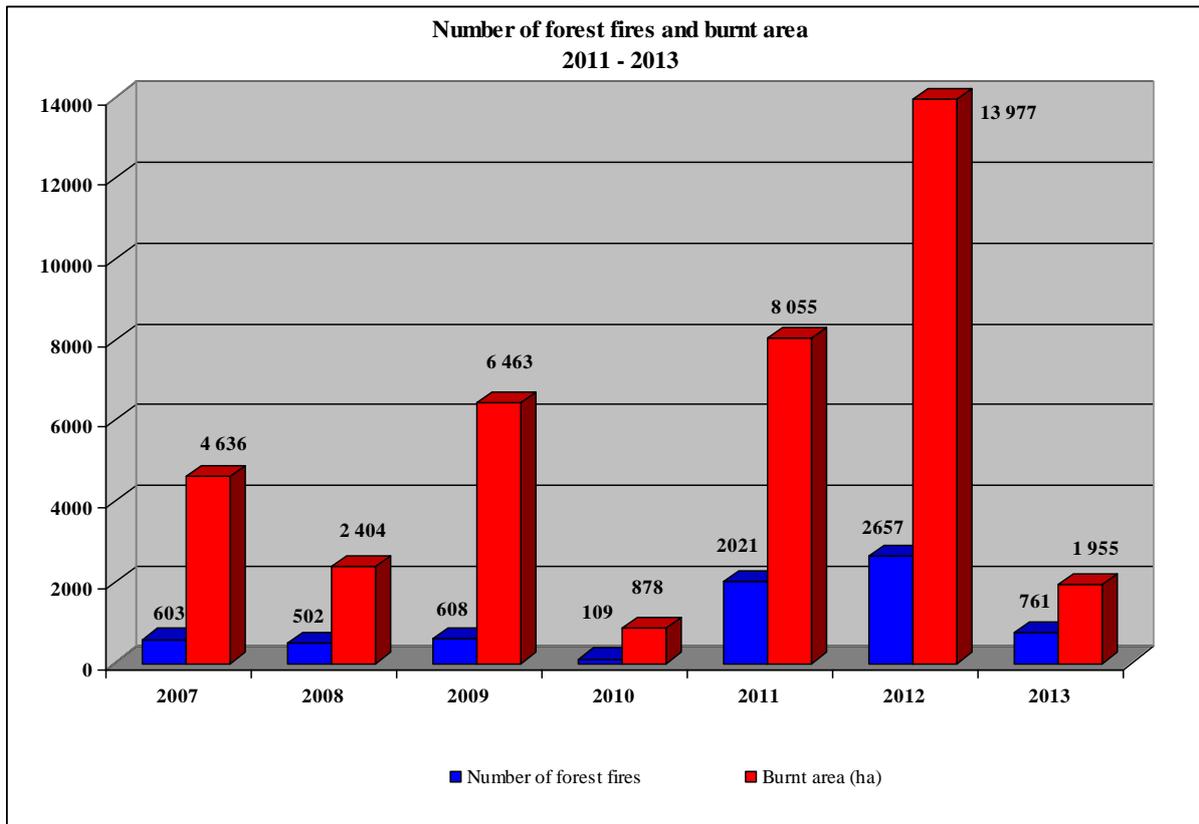
98% of forest fires are surface fires, as you can see down below in Table 2. Surface fires, when surface litter and other dead vegetal parts and smaller shrub burn have been common in Hungarian forests. They can develop in whole fire season. Canopy fires mostly develop in coniferous forests in summer period. Ground fire is not significant in Hungary.

<b>Table 2.</b>		
<b>Type of forest fire</b>	<b>Number of fires</b>	<b>Total burnt area (ha)</b>
Ground fires	10	3
Surface fires	748	1.937
Crown fires	3	15
<b>Total</b>	<b>761</b>	<b>1.955</b>

The average rate of fires smaller than 1 hectare is almost 67%. The average total burnt area was 5,1 hectares in 2013, which is similar than in previous years. In 2013 there were only seven fires events when more than 50 hectares were burnt. In most cases about 20% of the total burnt area is forest.

Small fires are usually low intensity surface fires where dry grass and small twigs are burning. In 2013 there was a fire event where more than 100 hectares were burnt.

**Figure 1.**

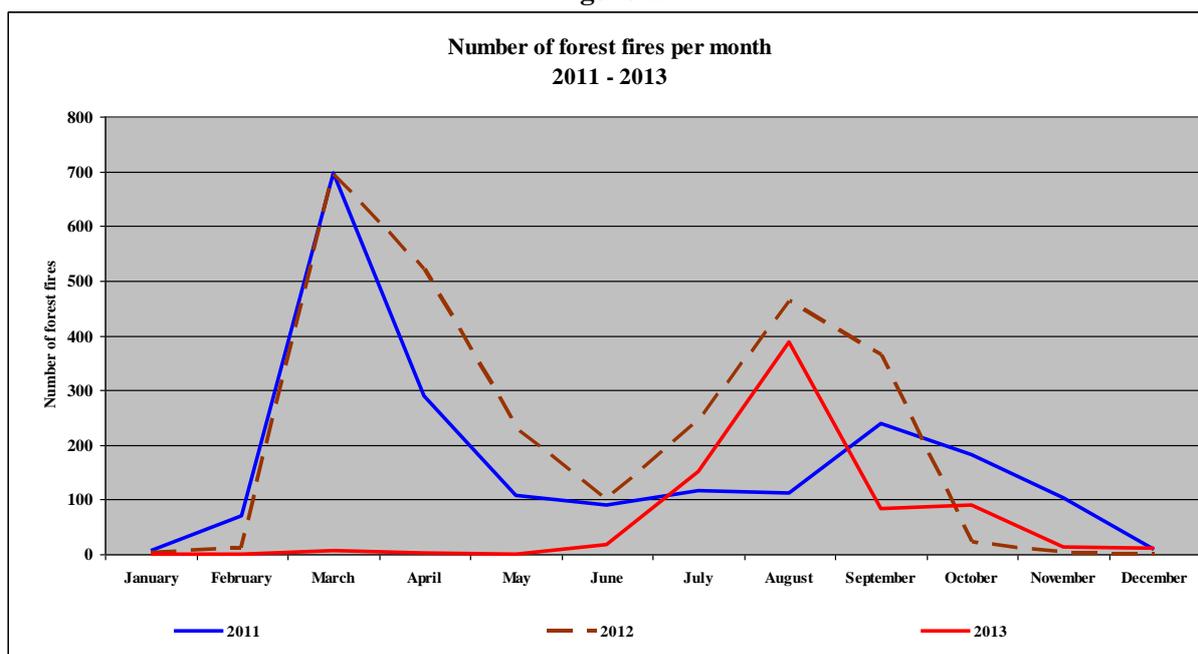


99 % of forest fires are human induced (negligence or arson). Most fires are induced by (adults' and infants') negligence and only a small proportion of fires are caused by arsonists. Typical forest fire causes are the incorrectly extinguished fires of hikers, and the illicit agricultural fires.

There are a lot of fires with unknown causes. If the point of ignition is not detected by fire investigators, the cause of the fire is to be reported as unknown.

Figure 2. represents the tendencies experienced in latest years that there are two most endangered forest fire periods during the year. Due to extreme rainy weather conditions last Spring, there was only one endangered period during the year. Although some wildfires were recorded in springtime, until mid of July some small forest fires brake out only.

**Figure 2.**



Contrary to recent trends, there were no spring fires last year. In arid summer period (June- August), forest litter, needles, dead twigs and branches got totally dry. Negligently lighted fires could start easily burning. 85% of forest fires in summer period were smaller than 1 hectare.

Studying the statistics we can see that total of 407 hectares of forest were burned or affected by fire during 2013. In addition, more than 1.024 hectares of grass vegetation and 524 hectares of bush vegetation were destroyed in forest fires. (Table 3.)

<b>Burnt fuel types in forest fires</b>	<b>Total burnt area (ha)</b>
Forested land	<b>407</b>
Other wooded land	<b>524</b>
Other land	<b>1.024</b>
<b>Total:</b>	<b>1.955</b>

**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 2013. 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 and the implementation of fire awareness raising campaign.

Fire prevention and fire fighting activities were presented by spokesman and members of National Fire Prevention Committee in the media in the frame of awareness-raising campaigns.

Use of data derived from FWI developed by JRC was integrated in the fire ban system also. Its values were taken into consideration and they were analyzed throughout the whole fire season supported by JRC.

Representatives of forest authority took an active part in fire prevention trainings organised by fire brigades two times last year. Main goal of trainings was to teach how to use new developed fire maps in fire fighting and prevention.

The webpage of Forestry Directorate has been continuously updated with fire prevention and fire ban information.

The forest authority and Disaster Recovery Directorates jointly controlled the forest areas where forest managers had to make forest fire protection plans.

Two types of brochures about fire prevention developed by forest authority were handed out to visitors of forest and forest managers last year.