

Forest fires in Hungary

2008.

(Reported by: Central Agricultural Office, Forestry Directorate)



Fire danger in 2008 fire season

The fire danger index was risen from April to July permanently and reached the „very high” level. In the middle of June the threat was medium, after that in July reached top level. After a short downturn in August reached the level again the „very high” state. Number of fires excluding the endangered periods were high in March, at the end of August and start of September.

The monthly mean temperature, excluding September, was above average. The precipitation was average through the year. February was very dry but in March lot of snow was fallen. In summer of 2008 precipitation was rich in total. The summer months were abundant of stormy days. The distribution of the precipitation in Hungary was shown that the most rainy territories like West and Southwest – Transdanubium and the mountain regions had more than twice and half times more precipitation than the middle of Alföld region.

Fire occurrences and affected surfaces

Year	Number of wildfires	Forest fires in Hungary		Fires in other land
		Number of fires	Total burned area (ha)	Number of fires
2007	6691	603	4636	6088
2008	6639	502	2404	6137

Although the years shown in the table were different, the number of fires in rainy 2008 was not much less than in 2007 when the weather was dry. The burned area was only the half of year 2007. The table above shows that only 9-10% of the vegetation fires are forest fires yearly in Hungary.

Fuel type

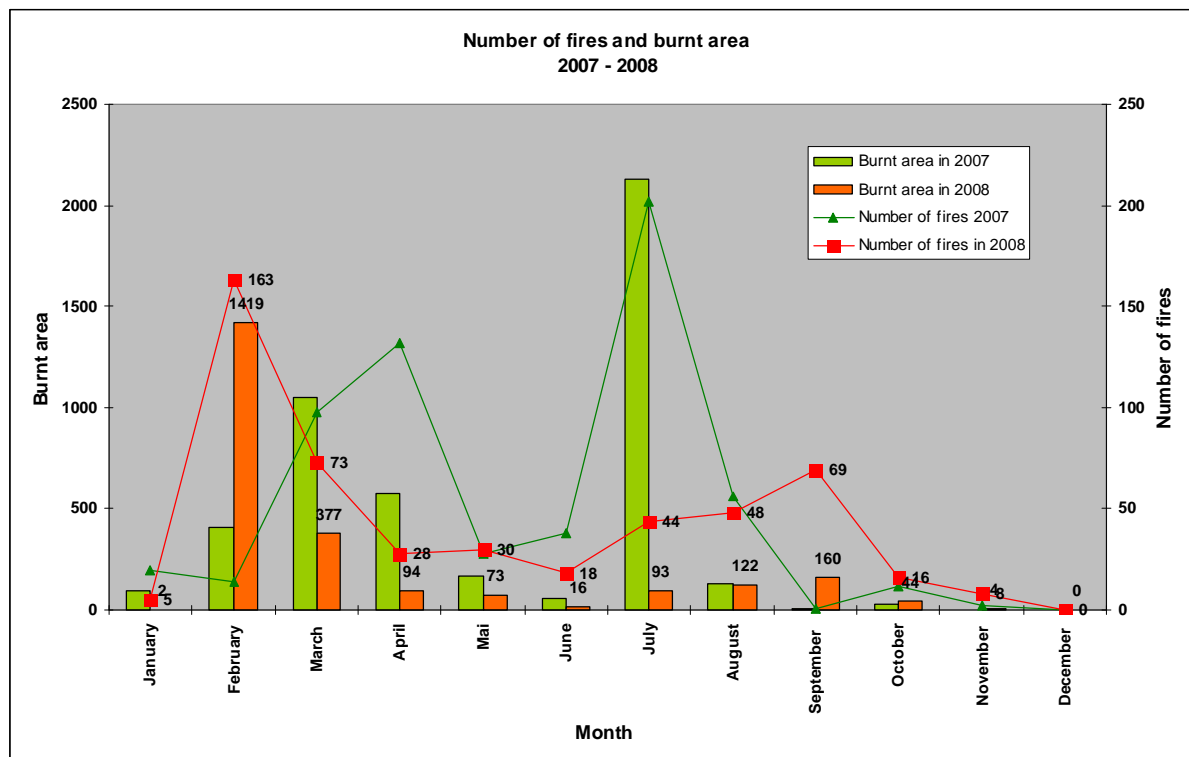
Half of the burned areas are short grass vegetations burned by the forest fire, as shown in the table below. The number of forest fires are in close connection with vegetation fires. Lot of times the cause of fire are the badly handled wasteland or grass fires spreading to the forest, or the bad handling during the slash burning in the intensively handled forests.

Burnt fuel types in forest fires	Type of vegetation	Total burnt area (ha)
Other land	Short grass	968
	Tall grass	327
Forested land	Broadleaf reforestation	95
	Coniferous reforestation	27
	Broadleaf stands	249
	Coniferous stands	26
Other wooded land	Shrubland	704
	Juniperus	8
Total:		2404

Burnt areas

Datas of 2008 make the demonstrated tendence stronger that there are two separated forest fire dangerous intervals in Hungary. Between 2002 and 2008 the most forest fire were arosen in February-April and July-August. In 2008 the interval between February and middle of March was the most critical. The grass and wasteland burning in early spring is part of traditional grassland use in Northern-Hungary, which cause the fire spreading easily to forests.

50% of fires were started in this part of the year 2008. We found no offset in the number of fires started in summer according to previous years. A new phenomenon is the high rate of fires in September.



70% of forest-fires were started in the two fire dangered intervals in 2008. 50% of the total burned areas were due to forest fires. The much of fires in spring were started in Northern Hungary, in summer in the pine forests of the Alföld region. The number of non forest fires is very high too. One third of vegetation fires start sin this region.

During year 2008 totally 397 hectare forest was burned down. Further 1285 hectare of grass vegetation and 712 hectare of bush vegetation was destroyed in forest fires.

Fires started in ongoing afforestation and reforestation and burned down 122 hectare. These plantations had to had repeated.

Counties of Hungary	Forest fires		Non forest fires
	Number of fires	Total burned area (ha)	Number of fires
Baranya county	41	113	243
Bács-Kiskun county	41	72	613
Békés county	15	86	288
Borsod-Abaúj-Zemplén county	71	637	590
Csongrád county	7	4	222
Fejér county	31	65	303
Győr-Moson-Sopron county	16	20	194
Hajdú-Bihar county	14	31	402
Heves county	34	281	401
Jász-Nagykun-Szolnok county	17	91	560
Komárom-Esztergom county	32	50	372
Nógrád county	35	210	239
Pest county	39	534	371
Somogy county	42	73	409
Szabolcs-Szatmár-Bereg county	9	24	391
Tolna county	15	19	100
Vas county	14	7	60
Veszprém county	18	54	106
Zala county	12	32	260
Budapest capital city	1	1	22
Mindösszesen:	502	2404	6137

The average burned area has decreased according to previous years. During rainy summer the size of burned area is much less than in previous years and there were no big size long-term forest fire in 2008.

Fires in Hungary can be classified in two categories. Fires smaller than 5 hectare (fires in afforestation, surface fires) are in the first category, crown fires and bigger surface fires are in the second.

The size of forest fires in 2008 excluding some special fire events, were not bigger than 50 hectares.

The proportion of fires smaller than 1 hectare is 40%. The fires are detected early so that the fire service can start the fire-fight quickly. These are usually small intensity surface fires where dry grass and small branches are burning. After fires under 1 hectare the average burned area was 0,16 hectare.

Nearly 60% of fires are between 1-50 hectare. The average burned area of these fires are 5,4 hectare. The cause of fires are commonly negligence. Fires above 100 hectare are very rare in Hungary. There was only one case of fire like that in 2008.

Size of forest fires	Forest fires	
	Number of fires	Burned area (ha)
< 1 ha	203	34
1 – 50 ha	292	1590
50 – 100 ha	6	380
100 – 500 ha	1	400
> 500 ha	-	-
Total:	502	2404

Fire type

Ground fires are not notable. 97% of forest fires were surface fires registrated in 2008. This is the most common type of fires under the hungarian forestry. This means 96% of the affected area.

There were only 8 crown fire in 2008, the burned area was 37 hectares. The 8 crown fire was burned down 1206 hectares. There were 4 crown fire in Bács-Kiskun county, 3 in Northern-Hungary and one fire in Somogy county. Half of crown fire were started in spring season and the other part of fires were in summer time.

Type of forest fires	Forest fires	
	Number of fires	Burnt area (ha)
Ground fire	5	45
Surface fire	489	2322
Crown fire	8	37
Total:	502	2404

Cause of fire

The fires are to 95 % human caused. Most fires are started because of (adult's and non adult's) negligence, and only the whereas a small part of fires are caused by arsonists. Typical forest fire causes are the incorrect extinguished fires of hikers, and the illicit agricultural fires. Natural cause is not relevant in Hungarian forest stands. 43% of total burnt area occurred by incorrect extinguished fires.

There are a lot of fires with unknown causes. The cause of the fire is not verifiable directly in many cases. The hungarian fire investigators register it as unknown if the circumstances of the forest fires is indeterminated.

Cause of fire	Forest fires	
	Number of fires	Burnt area (ha)
Unknown	284	1185
Natural	1	1
Negligence	172	1070
Arson	45	148
Total:	502	2404

Fire fighting

Fires were extinguished in average 1-3 hours after alarming. Fire service arrived to fire in average 30 minutes. Small fires are extinguished in one hour.

There were no casualties among fire fighter and civilian during fire fighting in 2008. The equipment of fire service was not heavily damaged. Death or personel injury did not happen meanwhile fire fighting in 2008.

Fire campaign

Fire prevention and fire fighting activities were presented very well by spokesmen of disaster management and forest authority and by media in the frame of awareness-rising campaigns last fire season. They organized some media events such as press conferences, short reports and announcements in newspapers and on the radio and TV. Supplying of data from fire database is daily task to forest owneres, managers and to media.

Size and text of information boards about forest fires have standardized which can be installed onto excursion places in forest areas and beside motorways. Preparation of two types of fire ban boards was prepared by CAO FD last year. 55 big size and 1000 small size informative and fire ban boards were distributed for forest managers end of 2008 and start of 2009

Expert presentation and demonstration about forest fires prevention and supression were organised by CAO FD for fire management and forest managers. Homapage of CAO FD is under development continously with fire prevention information.

