



Generalitat de Catalunya
 Departament d'Interior
**Direcció General d'Emergències
 i Seguretat Civil**
 Divisió Operativa
GRAF

Lo Forestalillo

Nº 80 24-03-2006

Situation of Forest Fires in Catalonia

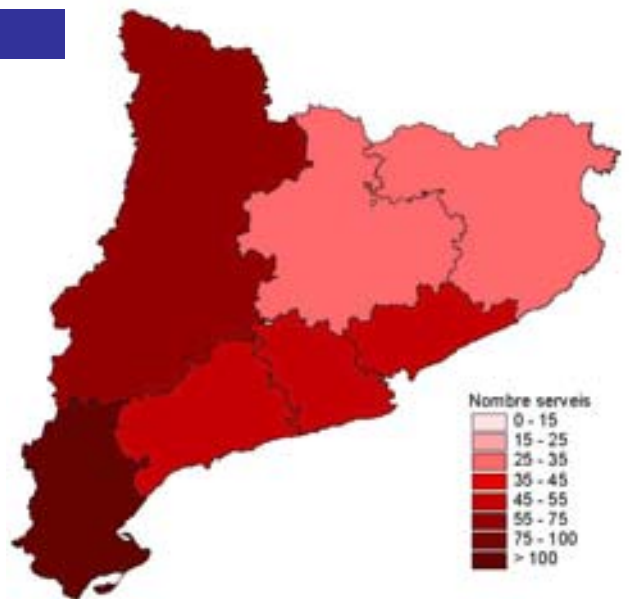


First award in the photography competition of the "First week of the Firefighters celebrated" in Igualada.
 Lemma: JG (more information to Aspects to Highlight)

What we had

Compared tendency

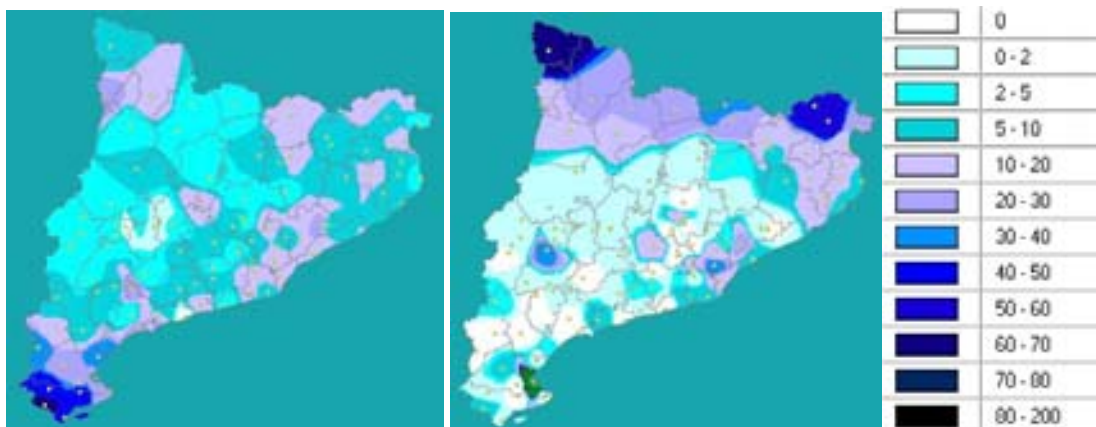
	19/03/2005	19/03/2006
Nº Services (VA+VU+VF)	1177	545
Surface (ha)	895	86



Description of the situation

Evolution of drought (availability of live and live dead fuels)

At the end of February and beginning of March rains have appeared, although not so abundant as in January. The first episode, the 15th to 27 February, was quite generalized, and except in Delta de l'Ebre, it did not overcome the 30 l/m². And a second episode, on 11 and 12 March, which has affected mainly the Pirineus, and in a local way some other point like the Vallès, les Garrigues and the Baix Ebre.



Accumulated rain between 15th to 27th of February and 11th to 12th of March, and legend.

These rains are part of an autumn and a winter with large reserves of water in the ground. The accumulated drought is practically inexistent; the west is still the zone with a larger drought. The sprout of the herb that has started now will reduce during a time the propagation of the fire. It seems that everything is wet and there is not danger, but it is necessary to keep attention to the possible episodes of wind on the 2nd weekend of March.



Fig. 6. Percentils of Accumulated Drought (DC)12/03/06

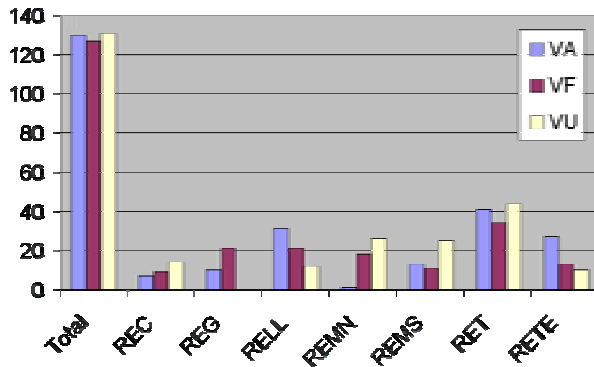


Evolution of Services



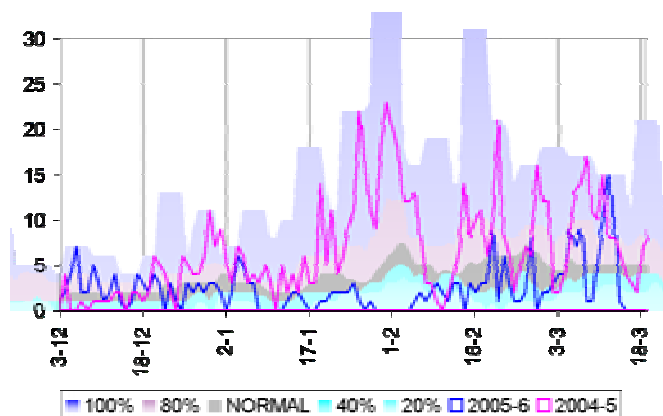
What we had

Even though the services are from a whole month, they are not many. It is necessary to highlight the larger number of services in Tarragona tied, in a basic way, to the episode of wind of the week of the 6th to the 12th of March. After the peak of services implied by the episode of wind, we are under normal values in this period.



Gràfic 1. Total number of services by region and type. VA=agricultural, VU=WUI, VF= forest. 7/2/2006 to 19/03/2006

Gràfic 2. Mbs13 (services of forest fire) from 01/01/06 until 19/03/06, compared with the same period in 2003/4 (blue line) and compared to the normal number of fires (in grey 50% percentil, in blue lower than normal, in rose higher than normal) for the last 5 years.



There has been meteorological window for being able to burn in a continuous way in different regions. Although the wind was a limiting factor, the availability of the fine live fuel (caused by a cold winter) allowed us to drive the prescribed burning with a sufficient amount of this kind of fuel. Now, after the rain and the high availability of live fuels, and just before the movement of sap in big part of territory, the burnings with window will be those forested areas with an understory with enough 1 HR and 10 HR and few shrubs, and shrublands that should burn with medium intensity (were the intensity is limited by the control capacity and not by damages to the overstory)

What is forecasted

We enter in a period the calmness, except the days of high wind and low moistures. The application of the regulations of prevention should translate into a minor number of services, due to the restrictions, in theory.

At the same time, as we have repeated in former editions, in the next fires we will start to feel the presence of fuel affected (broken) by the snowfalls combined with the strong gusts of wind of this winter, with high amounts of fuel, but low availability.





Regions

CATALUNYA

The continuous episodes of rains all over the region have meant that the level of services of the last days has been low and with little significance. Highlight the low availability of the accumulated dead fuel, but the important amount that there is in the forests where the snowfall provoked more broken branches and small trees. It is necessary to wait

What is forecasted Calmness until that we do not have continuous episodes of wind that dries the fuel or that the arrival of the summer provokes the change of state of the vegetation.

ARAGON

The situation of instability and the last episode of rains, they leave the fuel out of capacity of propagation with intensity.

What is forecasted Calmness, expecting successive episodes of drying winds, and the end of spring sprouts

VALENCIA

During the last episode of wind (10-12 March) the 2 more distinguished fires were produced (area <1,5 has; **Gavà** and Clariana, limit with it RET). The rain, in the form of snow and rain, that has received the region is sufficient for guaranteeing a spring of relative calm.

What is forecasted Calmness; only with episodes of wind we could have fast propagations. Movement of sap starts and, this fact, will influence on a low intensity of the fires.

CASTILLA

Two episodes of wind of more than three days at the end of the winter and in a short interval of time, ended up provoking the fire of **Oristà** (18/03/06), 1 ha. Behavior of fire affordable for winter resources with surface fire in shrubland and without spots

What is forecasted The last rains together with the change of season will mark the beginning of the vegetative period of the plants; the movement of the water retained in the ground towards the aerial part of the plants, will decrease the capacity of expansion of the fire in any stratum.

CASTILLA

The agricultural burning has marked the number of services; no important fire has been registered in spite of the strong gusts of wind that were given in the region. The drying wind has not had a notorious incidence in the fuel, due to the past rains, that will start now to be assimilated by the plants when the spring cycle that starts.

What is forecasted The same, waiting for episodes of north wind that can translate into fast fires, but with low intensity.

CATALUNYA

The region with higher activity with RETE i RELL, due to the end of the period of agricultural burning without previous authorization. To highlight the night fire in **Tarragona** (28 has; 09/03/06) tied to the entry of north wind, a shrub fire without spots.

What is forecasted Waiting for the episodes of north wind, with fast and low intensity fires.

ARAGON

In this region also the episodes of wind and the end of the period of previous communication of prescribed burning have supposed an increase of the activity of vegetation fires (especially agricultural), but that has been of little importance regarding affected area.

What is forecasted Even though in the next days a very weak situation of south, which will entail increase of the temperature, is foreseen; the physiological state of the vegetation will not favor behavior of large fire. With everything it will be however, necessary to be attentive to the possible episodes of north.

Grau d'activitat

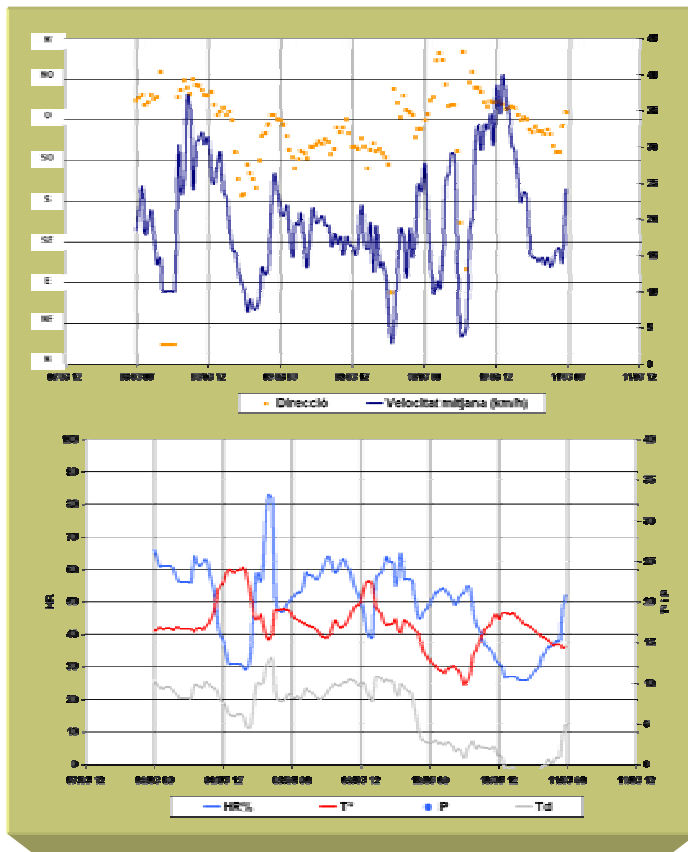
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Aspectes to highlight

3.1.- Training. Forest Fire in Tarragona (09/03/06; 28 ha).



Synoptic situation:

Synoptic situation of high winds of north. In the moment of the fire the wind hit in Catalonia with a west component in the Plana de Lleida and Central Coast of Tarragona, as well as, wind of NW in the occidental end of the Pirineus and the Ebre Valley, and of north in the peaks of the Pirineus.

The meteorological station of reference, Tarragona, marked a medium speed of 25-30 km/h. The relative moisture has not recovered in the former day, and during the night of the 9th to the 10th did not overcome the 62%.

Tactics of extinction

The fire propagates in the valley in the north of Sant Simplicí; in alignment with the dominant wind in the zone.

The affected fuel is a scrub (*Quercus coccifera*) from a 1996

fire. No spotting was detected.

The approach consisted in a direct attack with lines of water to the flanks. The fire stabilizes to the 01:30 hr of the day 10/03/06 and is controlled to the 06:15 hr. During the morning of the day 10/03/06, the fire enters in a retain phase where manual works were combined with discharges of air resources in hot points,





3.2.- Reading the images.

In the program activities at the I Week of the Firefighters (Igualada, 2nd to 9th of March) 49 works that opted to the prizes of the Competition of Photography were shown. In this sense, we have made a selection of the pictures more distinguished for fires forest and that without doubt, aside of its spectacularity, they have a pedagogic value. While reading the snapshots one can be certain, for example, of the availability of the fuel, the physics of the environment, the end of an entrapment or, also, understand the real limits of the capacity of extinction.



In the left, at top, a photograph of the fire of Castellnou de Bages (REC, 2005), where the personnel are protecting themselves in a safe zone while surrounded by high intensity fire. Remember the autoprotection training for forest fires, (http://10.136.11.250/foc_forestal/documents/). The position of the personnel and the use of the hose is the one displayed by the end of the entrapment.

In the bottom left, the fire is moving on a 4 fuel model, with *Erica sp* more than 2 m, and trees of 11 meters, and 20 meters of flame (Castellbisbal, 2005).

Images that provides a better understanding of forest fires

- *Helicopter working in a large fire . In the right leaves and branches of the trees directed towards the main forehead (in conclusion, the great need of O2 that needs the reaction of the combustion in this moment).*





3.3.- Fire-paradox.

The one March of this year started, a project with the abbreviated title or acronym **FIRE PARADOX**, after a period of preparation and presentation of proposals to the European commission. This, is an European project that develops within the framework of the sixth overall programme of research and development of the European Union.

The approach of this project considers the forest fires like an essential problem for many European societies, threatening human lives and property with disastrous impacts particularly at the wildland-urban interface. On the other hand humans always used fire as a tool to regulate nature and traditional use of fire is known in many regions of Europe. The understanding of this paradox, is thus essential for finding solutions for integrated wildland fire management.

Wildfires are a major problem for many European societies threatening human lives and property with disastrous impacts particularly at the wildland-urban interface. On the other hand humans always used fire as a tool to regulate nature and traditional use of fire is known in many regions of Europe. The understanding of this paradox, is thus essential for finding solutions for integrated wildland fire management.

This concept requires considering the various aspects of fire, from its use as a planned management practice (prescribed fire) to the initiation and propagation of unplanned fires (wildfires) and to the use of fire in fighting wildfires (suppression fire). Prescribed or suppression fires will therefore set the limits for wildfires by controlling their spatial extent, intensity and impacts.

This is the main approach adopted aiming at the creation of the scientific and technological bases for new practices and policies under integrated wildland fire management and in the development of strategies for its implementation in Europe. Three major domains of related activities were considered: research, development and dissemination. The **DGESC** coordinates and develops the part of formation with the goal to update, to adapt and to homogenize a formation in forest fires to European level.

In research, the project will focus on understanding the mechanisms and modelling the processes associated with fire, from physics to biology and social sciences. The scientific and technical knowledge gathered will allow the development of a technological platform that will integrate the fire model, the temporal and spatial variability of fuels and weather, and the potential ecological and socio-economical impacts.

Documentation and demonstration platforms will also be extensively used for dissemination, focusing in the development of strategies for public awareness, academic and professional training using new communication technologies and networks, and for the implementation of new practices, policies and regulations under the concept of integrated wildland fire management.

This project will be carried out by 31 participant institutions, of 14 different countries; countries of the European union and extracommunity countries of the Mediterranean area. Among the participants there is the **DGESC**.

The part of which the **DGESC** will be entrusted is the exchange of professionals associated and the transfer from new technologies for sharing experiences, analyzing methodologies of work and the implementation of improvements.

The week of the 6th in the 10th March the first meeting took place in Lisbon, in the next editions will be briefed meetings or actions carried out in Catalonia.

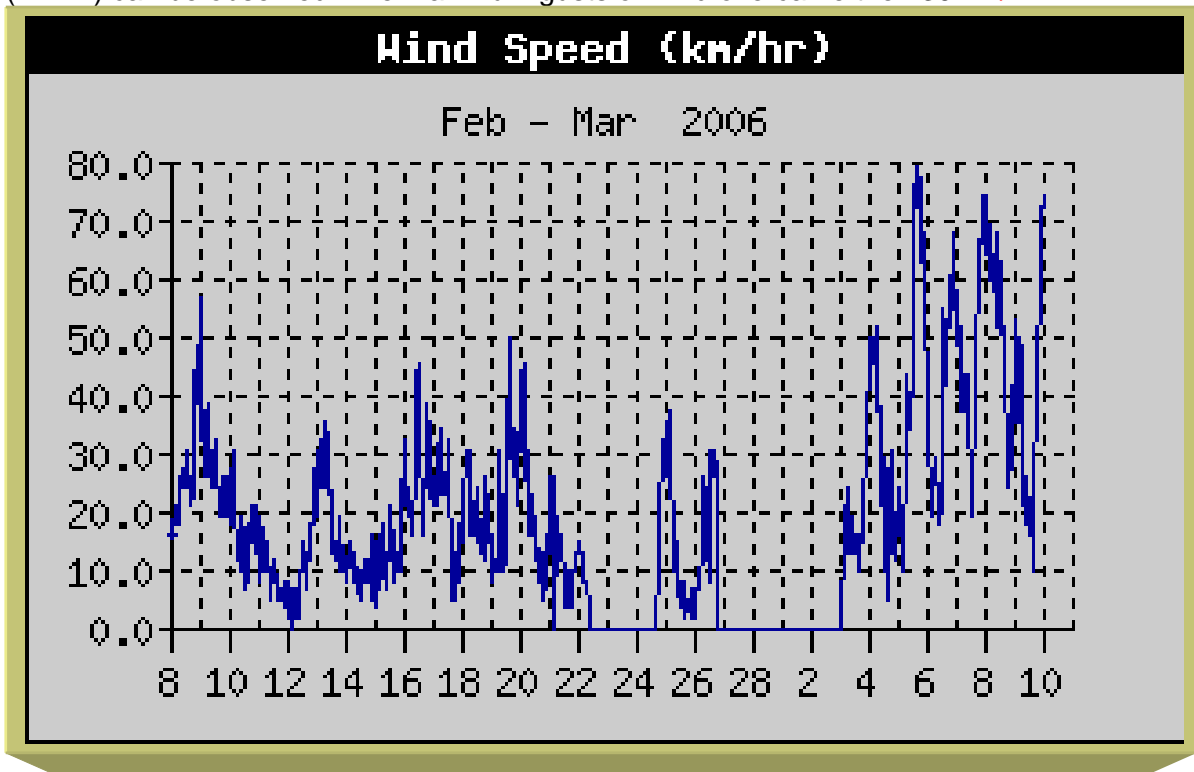




3.4.- Effects of high winds

Terres de l'Ebre, Camp de Tarragona, plana de Lleida and Garraf have been the zones more punished by the strong gusts of wind of March. The intensity of the wind as well as the low relative moisture that usually accompanies these episodes marked the meteorology of the 6th to the 11th March.

To the following graph the values of medium speed that was attained to the station of **Caro** (RETE) can be observed. The maximum gusts of wind overcame the 130 km/h.



Source: *Weather in Montcaro.* <http://217.126.3.196/weatherlinkcaro.htm>

Some images of the effects of this episode are the following ones: (1) in a field of olive trees and (2) in a white pine, 50 cm diameter. Look also the shape of the clouds during the high wind episode.

