



The central region week

Photograph: Sallent fire (REC) the 11/07/07. Image of a firefighter soaking the fire perimeter.

What we had

Compared trend from the beginning of the year until:

	12/07/2006	12/07/2007
Num. fires (VA+VU+VF)	3529	3390
Area (ha)	2522	1329 (*)

VA: AGRICULTURAL VEGETATION
 VU: URBAN VEGETATION
 VF: FOREST VEGETATION
 (**)PROVISIONAL AREA WAITING FOR VALIDATION



Number of fires (VA+VU+VF) from 05/07/07 to 12/07/07, larger than 2 ha.



Description of the situation

Drought evolution (live fuels and coarse dead fuels availability)

We continue having a drought index under the registered in 2006, but in the central-west part of Catalonia the drought start to have a very similar values. The storms produced in the last days had brought rain everywhere, and only some places of the northeast regions had been favoured, where the drought values have diminished. In the next days an increase of the fuels availability due to the south advection entry is foreseen.



Fig. 3. Accumulated drought (Drought Code index) of 11/07/06.



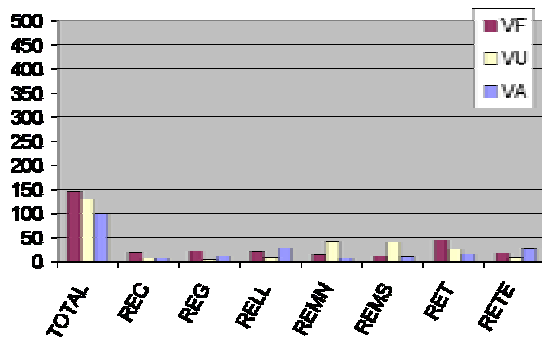
Fig. 4. Accumulated drought (Drought Code index) of 12/07/07.



Fig. 5. Rain amount map of the 11/07/2007.

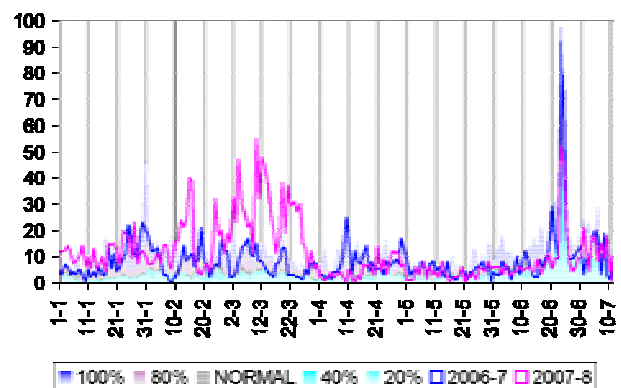
Fire services trend (VA, VU and VF)

This period has been characterized by a lower number of services than other years. The main services of the Tarragona region have been the forest vegetation fires, while both metropolitan regions continue having urban vegetation fires as the most important.



Graph. Total services and region services according to the type of vegetation involved, for the last fortnight (from 05/07/07 to 11/07/07)

Graphic 1. Fire index Mbs13 (services in forest vegetation) from 01/01/07 until 11/07/07, (magenta), compared to last year Mbs13 for the same period in 2006 (blue). Trends over time of number of normal services (grey), 50% percentile, less than normal services (cyan) and maximum services (lilac) for the last 5 years.



Important information

3.1.- OUTSTANDING WILDFIRES

Sallent (12/07/2007)








- **Weather:**

The humidity had retrieved during the last night and those of the fire moment were 46%, the speed of the wind was very soft (6 km/hr), and moderate temperatures (26°C). Even though it wasn't an extreme day, the days before hadn't humidity recovery and with low relative humidity, and on going by only 24 hours the live fuel hadn't recovered.

- **Behave:**

The fire starts on the road BP-4313, making up-slope careers in full alignment in direction of the "Abellar de baix" mountain. Once to on top of the Mountain it send spots to the north aspect, where the fire goes down without alignment

	Machinery
	Hose line
	MAER, Aerial Resources
	Indirect attack
	Parallel attack

- **Tactics:**

The vehicles located in the plowed fields started the work on the flanks and the back supported by aerial means. On the head-flank left was executed a burn out. Spots and head were worked with hand tools and aerial means. The ADF (the land owners firefighter organisation) worked in the flanks plowing the fields with agricultural machinery. Finally, at night the hose lines had just been surrounded the perimeter.

- **Extinction Means:**

70 Tracks, 20 air means and 2 hydroplanes.

Burned area: 134 ha



The fire's head on the Serrat, where the intensity diminishes due to the change of fuel and the slope loss



F1



F2



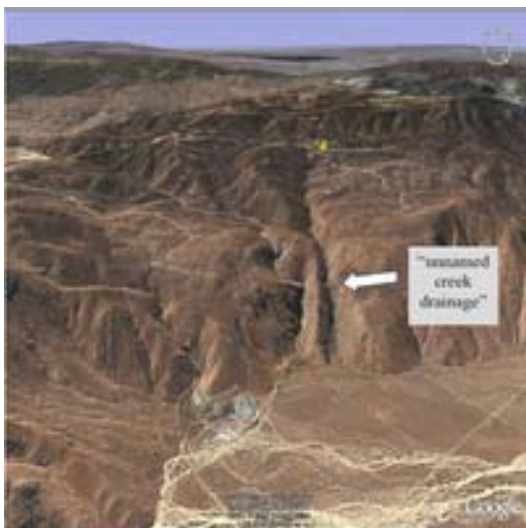
F3

In the zones out of alignment the fire propagates in low intensity (Photo 1).

The fields' mosaics in the forest mass allow making different operations, how to place the vehicles like positioning vehicles in safe way in plowed fields. (Photo 2).

The forest structure has vertical continuity, with rests of pruning which increase the intensity of the fire (Photo 3).

3. 2. - BURN-OVER IN CALIFORNIA: ESPERANZA FIRE



26th October of 2006 at 7:15, 5 firefighters were caught up by a fire, while they defended an isolated and empty residential structure. All 5 firefighters died, caught up by a very fast and intense run that burned all the pot under its location.

The fatalities occurred in a zone of urban interface with recognized extreme forest fires danger. There were 5 trucks that were all the night protecting structures next the some of the other ones.

The fuel does not consist in big trees masses instead of that there are grasslands or scrubs of fine leaf, burned dense and dry scrub (chaparral). The majority of burns-over are in these zones with abundant fine fuel, in Catalunya as well as in outside (Nonasp, Guadalajara, Esperanza Fire,...). These are fuels that we are used to see them burning in a specific flame lengths, but when there is full availability, the width of fuels that burn simultaneous increases, and the flame length increases in a disproportionate way because of the interaction. This situation surprises the firefighters that are used to fight the fires in normal days.

With the knowledge that the fire will make a run in the morning with the entrance of the wind and the isolation in alienation with the east slope, the chief of the vehicle communicate that he felt safe in his position and that he had a truck (BRP), a swimming-pool and a pump to supply the vehicle. But around the house, located in a hill inside the canyon there was vegetation, vehicles and furniture.

To plan the safety zones, it is necessary to valuate every moment the alienations and the position to avoid the convection and the smoke. The area must be clean of fuels and about 4 times the expected flame length to protect people from the radiant heat.

Official report reasons

Factor 1: Loss of the conscience of the situation about the dangers associated to the potential fire behaviour and the fire environment in a complex situation of a wildland urban interface.

Factor 2: The decision of the commanders and the chief of the vehicles to try to defend the houses situated in the trajectory of the head in a very fast fire, underestimating the risk for the firefighters.



Exhibit 10. Accident Site overview.



Exhibit 11. Overview from Accident Site looking north to Cabazon.

Contributing factors 1. Organization culture – The social and politic public community expects and demands that the firefighters accept a higher risk to protect urban structures, empty of inhabitants, in forest fires rather than when the threatened thing is the forest mass.

Contributing factors 2. Fire environment – The fires from Santa Ana became alienated with the fire shed that initiated a run, and this one creates a breath of hot air. The hot air broke the inversion, contributing to an extreme behavior in a large area. The entrapment area was at the end of a fire shed with quite slope, with fuels loads in the minimum of the season humidity.



Exhibit 3. Aerial view of spot fires below the Accident Site at approximately 7:10 a.m. PDT



Exhibit 4. Aerial view of the fire run at approximately 7:14 a.m. PDT