

# Lo Forestalillo

Nº 90 09-07-2006

Situation of Forest Fires in Catalonia

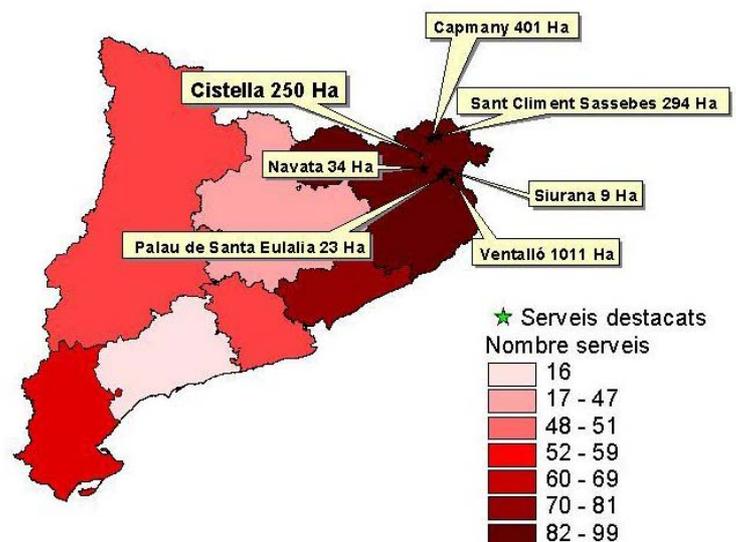


Column of smoke of the fire of Sant Climent 03/08/2006

## What we had

Tendency compared until:

	28/07/2005	28/08/2006
Nº Services (VA+VU+VF)	6162	4215
Area (ha)	6415	4610



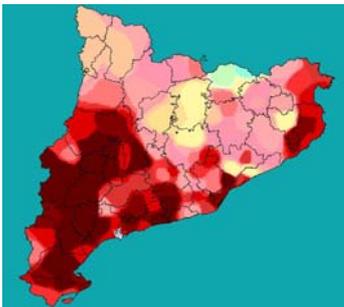
Number of service (VA+VU+VF) from the 28/07 to the 07/08/06, and services larger than 2 ha.



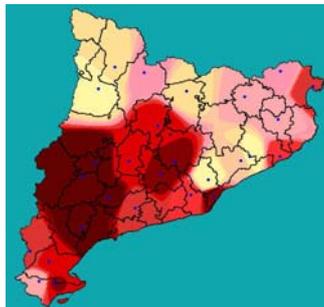
## Description of the situation

### Evolution of the drought (availability of live fuel and large dead fuel)

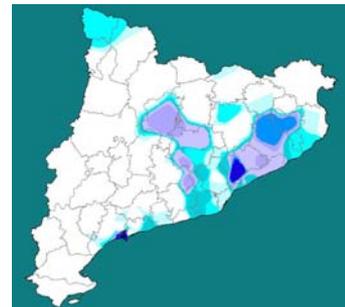
The rains of the last days, 3 and 5 August, were concentrated in the REMN, REC and in an area of REG, and they unloaded punctually with intensity. It is necessary to highlight the situation in the south east of the region of Girona, where the drought starts to be pronounced. Tarragona, Terres de l'Ebre and south of Lleida are not still receiving rains, therefore the situation of hydric stress of the vegetation continues being increased, with which it increases the burden of disposable fuel. The forecasts in short and half a term mark different episodes of rain that can invest this situation.



**Fig. 3.** Accumulated drought (Drought Code Index) at 05/08/06.



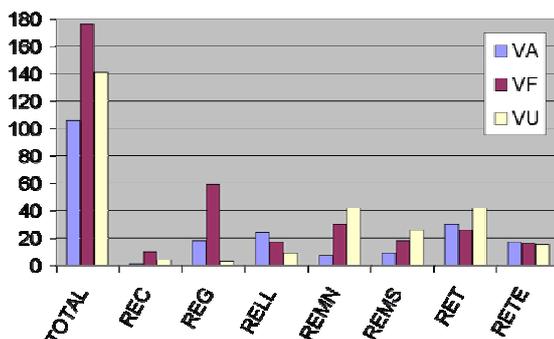
**Fig. 4.** Accumulated drought (Drought Code Index) at 08/08/05.



**Fig. 5.** Accumulated rain at 3-5/08/06

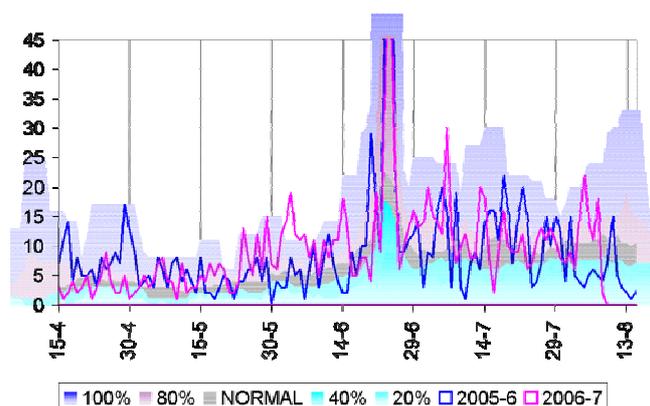
### Evolution of services (VA, VU and VF)

These last days the situation of north has marked the VF in Girona. In general, the proportion of services for each region is maintained, with the exception of the REG. The VF will mark the trend of the campaign if the episodes of rain predicted are not fulfilled, the fuel continues drying and enters in availability due to the accumulated hydric stress. The VA are decreasing and the VU are sustained by the human activity in the summer (local festivities, life in the street, tourism...).



**Gràfic 1.** Total services and for region according to the type of affected vegetation of the last 15 days, from the 23 July until the 07 of August

**Gràfic 2.** Mbs13 (Forest fire services) from the 23/04/06 to the 07/08/06, compared to the same period in 2005/6. The evolution of the year is also compared the number of normal services (in grey, percentile 50%), less of the normal (in blue) and more (in violet) of the last 5 years.





## By regions

REG

The last episodes of north wind have meant numerous fires to the Region. Services of importance have been registered (Sant Climent 03/08, Cistella i Ventalló 04/08, Capmany 06/08, Palau de Santa Eulàlia and Navata 07/08) that they showed intensity, generation of spots at distances of more than 2,3 Km (Palau Sta. Eulàlia) and flames of 40 m (Ventalló).

**What is forecasted** The situation of North will keep until Monday, from then we will enter in a situation of instability that can produce rains in the east part of the region. The lack of north wind will favor the increase of the humidity in the region.

REMN

The episodes of instability have meant rains in the Region on days 3, 5 and 8/08 punctually with intensity in Maresme and Vallès Oriental. It has been produced the fire of Collserola 07/08 (10,5ha) with fire of surface and low-half intensity.

**What is forecasted** End of the situation of North. Monday is the moment in what it will increase the instability and the possibility of a new episode of rains.

REMS

The last episodes of instability have meant remarkable rains to the inland and the coast. There have not been services of importance.

**What is forecasted** The situation of south is reinforced from Monday, when it loosens the situation of North, giving step to instability and possible rains in Tuesday or Wednesday.

REC

The Region has not had services of importance. The rains recorded in the last episodes of instability in the south of the region have favored this tranquility in the number of services.

**What is forecasted** From Monday it will be a situation of south that will affect in the next days provoking, from Tuesday, an episode of instability with rains. It is foreseen that it continues the tranquility in the number of services.

RETE

Even though the Region shows a high index of accumulated drought there has not been important activity. In the last episode of rains of the 08/08 the Terra Alta received rains and the rest of the region abundant lightings.

**What is forecasted** End of the situation of north-west wind (mistral) from Monday, moment in which the rains are more probable and reducing predictably the accumulated drought in the region. Higher humidities will be registered from Tuesday.

RET

Low number of services in spite of the situation of drought that the Region lives and the situation of mistral that it has been given the last days.

**What is forecasted** Low activity in the moment in that this situation of mistral is finished from Monday with increase of instability. Is foreseen a beginning of an episode of rains at half a week and higher humidities.

RELL

The Region is clearly divided: the north sector that has received important rains, and the extreme south that has not recorded rains or that have not been important and there is a remarkable drought..

**What is forecasted** End of the situation of north from Monday and probable rains from Tuesday, consequently the humidities on the following days will be higher. These will give to a new favorable situation to the level of fuel availability that we bring keeping all the campaign in the south part of the region.

### Level of activity

 Low
  Normal
  Medium
  Important
  Critical
  Large Fire

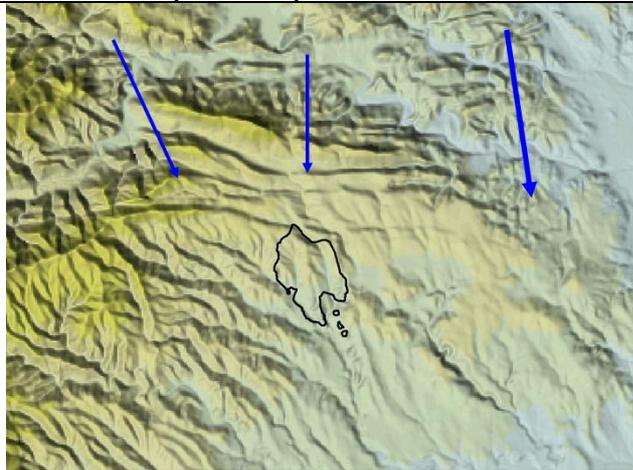


## Important aspects

### 3.1.- Fires in Empordà, now it makes 20 years of 86...

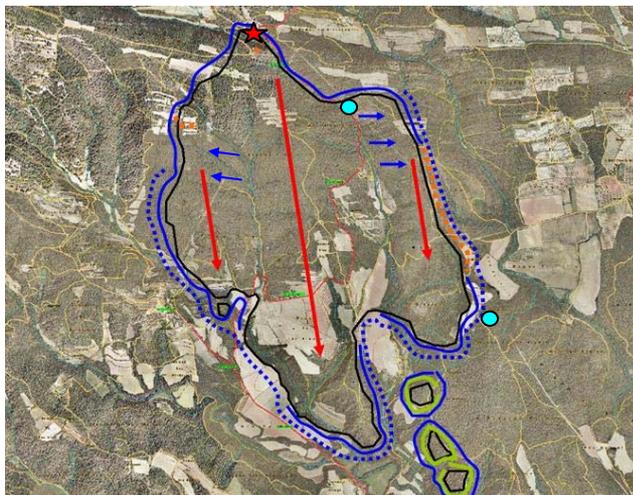
Sant Climent Sescebes (03/08/2006)

	<ul style="list-style-type: none"> <li>• <b>Meteorology (Cabanes):</b>  <b>15:53h Fire ignition:</b> 27°C, 39%, 30-60Km/h N.  <b>22:15h Perimeter stabilization:</b> 22°C, 46%, 30-60Km/h N.  <b>04/08,22:00h Fire controlled:</b> 24°C, 39%,20-60Km/h N.</li> <li>• <b>Behavior:</b>        Wind fire (blasts of 50-60 km/h) that is initiated in agricultural zone and in fastly affects farms and disperse houses. The speed of the forehead through margins and river vegetation overcomes the speed of progression of the water lines, that were centered to protect persons and goods. The forest fuel of the right flank gives intensity to the fire. The smoke of the column arrives flattened in Sant Climent accompanied of spots that they scatter the fire for the agricultural zone.</li> <li>• <b>Operations and tactical expositions:</b>        The speed of the forehead and the risk that implies the fire for the farms and the village of Sant Climent, forces to prioritize the maneuvers of defense of the persons and goods, with water lines, MAER, burns out and manual tools. Later it is considered to close the queue of the fire to avoid new spreads of the right flank towards the forest zone and involve more houses and the military basis and, at the same time, working in the head to close the progression of the spreads of fire of the creeks and margins of crop.</li> <li>• <b>Fire fighting resources:</b>        53 BRP        3 GRAF Units        9 Control (1CR, 4CG, 4CS, 1CGRAF)        4 Water bomber seaplane, 2 Water bomber airplane and        2 Air tractors        5 Water bomber helicopters        2 Helicopters to command</li> <li>• <b>Burned area:</b> about 323 ha.</li> </ul>
<p> <span style="color: yellow;">.....</span> Farming implement  <span style="color: blue;">.....</span> Water lines  <span style="color: cyan;">.....</span> Aerial resources  <span style="color: red;">.....</span> Backfire  <span style="color: orange;">.....</span> Tactical burn  <span style="color: green;">.....</span> Manual tools         </p> <p> <span style="color: cyan;">●</span> Critical points  <span style="color: red;">➔</span> Principal runs  <span style="color: blue;">➔</span> Lost of alignment         </p>	<p><i>Beginning of the fire in agricultural and river zone and the opening of the right flank to the when it crosses the creek near to the first affected farm.</i></p> <p><i>Gray and brown column that burns the fuel forest of corks and dry scrub. The wind inclined it, favoring the propagation for unrelated points of the spots.</i></p>



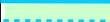
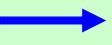
- **Meteorology (Cabanes):**  
**15:53h Fire ignition:** 29°C, 26%, 30-70Km/h N.  
**05/08, 22:15h Perimeter stabilization:** 28°C, 25%, 25-60Km/h N.  
**08/08, 22:00h Fire controlled:** 30°C, 28%, 25-50Km/h N.

- **Behavior:**  
 Wind fire that starts near a creek. When it affects the both aspects the forehead is opened in direct and indirect taking the three main ridges lined up to the North Wind. The propagation of the head at great speed and with the launch of spots opens the forehead until arrives to the plain, when it loses alignment, it reduces its speed and intensity. To highlight the massive launch of spots and the sinuous perimeter in the creeks of the plain.



- **Operations and tactical expositions:**  
 The first spread of the head in direct, just when the resources arrived, it implies to assign resources in the end of this spread, where in little moments it collapses the column and the spots (Vilarig and direction to Cistella). The work from the left queue-flank to avoid the indirect opening can not stop the ascension of the flank at the Puig de les Forques. Then efforts are centered to avoid the fire to reach la Serra de l'Illa and the village of Vilarig. The work during the night with manual tools and water lines ends up closing the head of the fire.

- **Fire fighting resources:**  
 54 BRP  
 6 GRAF Units  
 5 Control (1CR, 3CG, 4CS, 1CGRAF)  
 4 Water bomber seaplane, 2 Water bomber airplane and 2 Air tractors  
 6 Water bomber helicopters  
 2 Helicopters to command  
**Area burned:** about 243 ha.

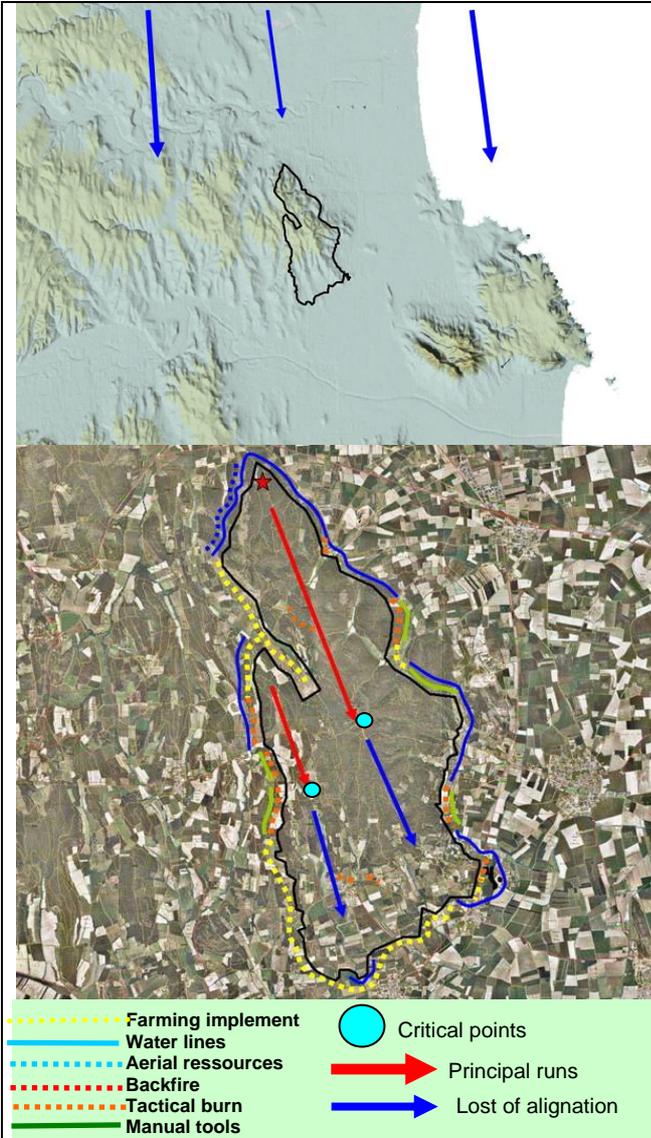
	Farming implement		Critical points
	Water lines		Principal runs
	Aerial resources		Lost of alignment
	Backfire		
	Tactical burn		
	Manual tools		



*The column of Cistella already manifested a more intense behavior than that of Sant Climent, in height it became a small pirocumulus, typical of wind fires with a lot of fuel.*



*The type of forest fuel forest, high, dense and very available recommended to locate vehicles in open spaces (safe), from where to throw line or to anchor burning tactics.*



*The arrival of the forehead of fire during the night, opened and with spots, forced to protect homes and farmhouses in an autonomous and independent way along the C-31.*

- **Meteorology (Sant Pere Pescador):**  
**23:52h Fire ignition:** 23°C, 45%, 20-60Km/h N.  
**05/08 19:36h Perimeter stabilization:** 25°C, 35%, 20-50Km/h N.  
**22:00h (04/08) Fire controlled:** 26°C, 48%, 20-50Km/h N.

- **Behavior:**  
 Fire of night wind that is initiated in a wooded zone dense and in full alignment with the north wind. The main spread until Puig Segalar with active fire of tops is very fast (1,6 km/h) with flames of >40 m and spots at >100m. During the descent of the head, in spite of losing alignment, the wind allows the massive launch of spots in the fields, stubbles and margins of the plain, assuring a discontinuous and fast propagation.

- **Operations and tactical expositions:**  
 During the first 8 night hours the priority was to attempt to stabilize the head before the ascension to Puig Segalar and to close the flanks. When the head arrived to the top and it initiated the descent, then it was prioritized the defense and protection of the inhabited villages and the farms. The stopped of the fire in the C-31 was determining to avoid the opening through stubbles and margins towards Verges and Bellcaire. During the day the flanks were closed to avoid new openings towards Garrigoles. A lot of perimeter was anchored in paths and plough fields to avoid scolds and save hoses and BRP of control in the retain.

- **Fire fighting resources:**  
 56 BRP  
 6 GRAF Units  
 1 BRIF  
 5 Control (1CR, 2CG, 4CS, 1CGRAF)  
 3 Water bomber seaplane  
 4 Water bomber airplane and 6 Air tractors.  
 6 Water bomber helicopters  
 2 Helicopters to command

- **Area Burned:** about 1160 ha.

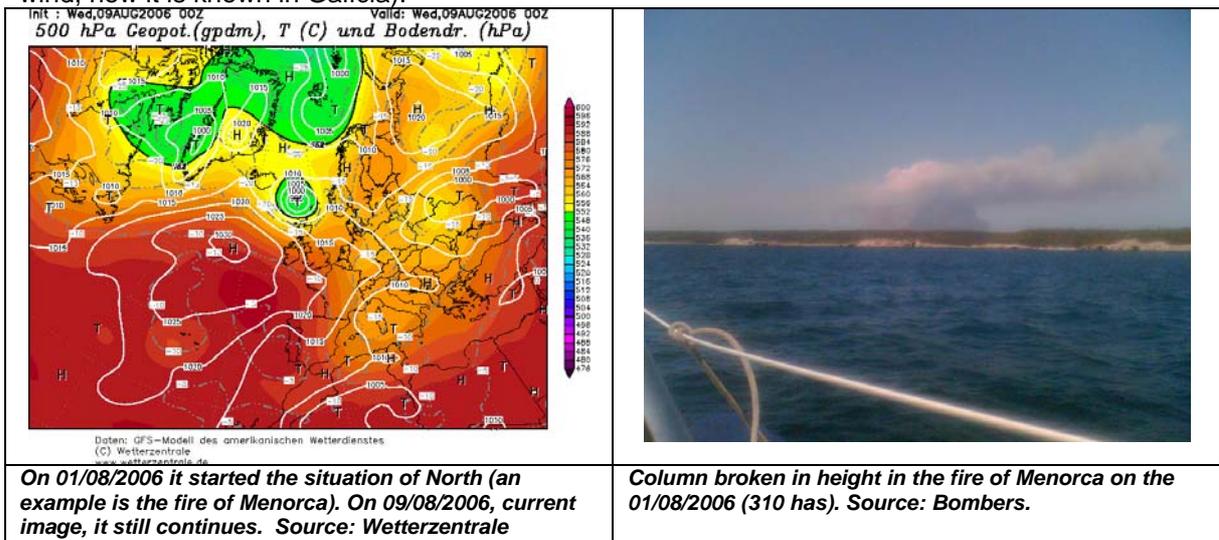


*The combined tactics of plowing, line of defense and enlarged burning were made to give time to the water lines to arrive and to avoid new spreads of the flanks.*



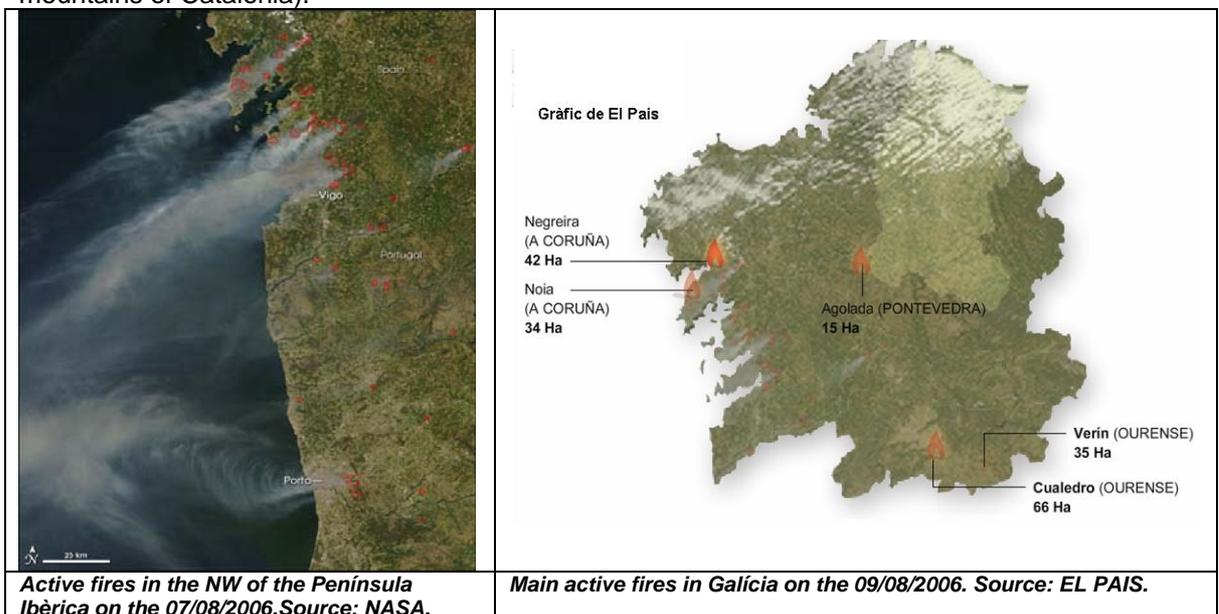
### 3.2.- The “Nordés” (north-east) wind and the fires of design: Galícia, Menorca and Portugal.

The current synoptic situation is not neither strange nor exceptional. During the winter the Atlantic façade is marked by west winds associated with the low pressures that are formed and circulate for the Atlantic one (usual storms); but in summer the meteorology is invested and comes marked by the anticyclone of the Azores, it is in this season of the year when it rises to more septentrional latitudes and it makes the flows of the masses of air enter from north-east (giving the name “Nordés” to the wind, how it is known in Galícia).



The fires of design are present again and are something about which it has to be worked (making, planning...); the Morte Coast (West of Galícia) like the inland they are characterized for this type of fires driven by strong winds.

The air mass enters by the coast of Lugo leaving the coast with very high humidities during the critical hours of the day (for example: el Ferrol 70% HR on 08/08/2006) however, the inland can attain humidity under the 20% (Mondariz 18% the same day 08/08/2006) and speeds that overcome the 60-70 km/h. This situation can remind us to the fires of V2 (fires driven by wind in the coastal mountains of Catalonia).

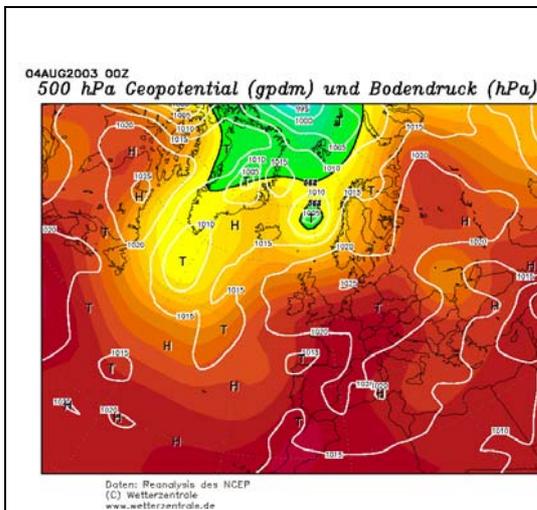




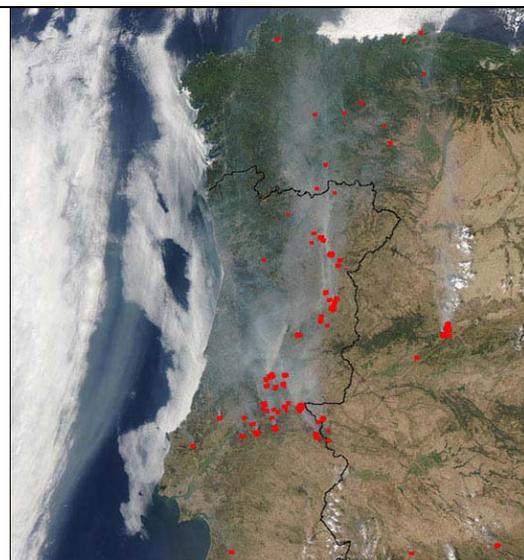
Until the date of today the area burned in Galicia rises more than 10.000 has and the active fires in this moment overcome the 62 with the added difficulty that it supposes the simultaneity and the negative stress of the professionals of the extinction. The behavior of the fire is similar to our fires of north wind; lengths of flame superior at the 50 m and propagation for points of forehead.

**Fire behavior in a north situation in Galicia. Source: EL PAIS.**

The situation in 2003 was "different", the air mass had some characteristics marked by low humidity but a high temperature, and without a wind with intensity as marked as in a situation of N. In the following images it is shown the synoptic situation that provokes a movement of the air mass from the north of Africa to the south and center of Europe. The movement of the fires is inverse and, therefore, the critical zones also vary (comparison of the images NASA days 07/08/2006 and 04/08/2003) affecting more the inland zones than the coastal ones.



**Synoptic situation of South on 04/08/2003. Source: Wetterzentrale.**



**Active fires in the NW quadrant of the Peninsula Ibérica on the 04/08/2003. Source: NASA.**

These examples have to make us reflect on the utility of the fires of design or type fires, not only to work in a safe and effective way in the extinction but, moreover, to make a forestry planning adapted to the own and characteristic risk of the territory.