

# 2007 Summer Fires in the European Mediterranean – The Cases of Greece, Italy and Spain

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“With the forest fire season barely started, 2007 threatens to be destructive in Europe with nearly 337,600 hectares of forest already burnt in fires by the beginning of August, compared to 358,500 for the whole of 2006, and a month of July that has been “the worst-ever” since records began between 1985 and 2005 depending on the country.” That was the announcement by the European Commission in its release of 2nd August 2007, based on data from its European Forest Fire Information System (EFFIS).

## A Very Grave Outcome for 2007: Heatwave Blamed

In addition to the substantial acreages devastated by fire to which the above-mentioned European Union release refers, the summer of 2007 was equally noted for the very heavy human death toll: the approximately 100 deaths in countries surrounding the Mediterranean, especially in Greece and southern Italy where the fires were particularly deadly, are highly regrettable.

This exceptional situation, which contrasts vividly with the preceding year of 2006, which had conversely been very favourable, needs to be seen in the light of an unusual weather pattern: while the Azores high pressure system, sitting eastward of its customary position, kept Western Europe under torrential rains, eastern and southern Europe experienced heatwaves that invited fire outbreaks, even in countries that are customarily unused to large fires, such as Slovenia, Croatia and Bulgaria (Rigolot, 2007). The drought and

successive heatwaves with record temperatures, accompanied by strong, hot and dry winds, as well as – to a lesser extent in certain countries – criminal activity by arsonists, appear to be the chief reasons for the spread of these fires. Under such conditions the firefighters who were mobilised often encountered severe difficulties in taming the flames.

## Three Countries Most Affected: Greece, Italy and Spain

The five European states traditionally affected by forest fires (France, Spain, Portugal, Greece and Italy) suffer an average annual fire tally of 50,600 incidents with 493,000 hectares burnt (data for the 1980-2006 period) (JRC-IES, 2007).

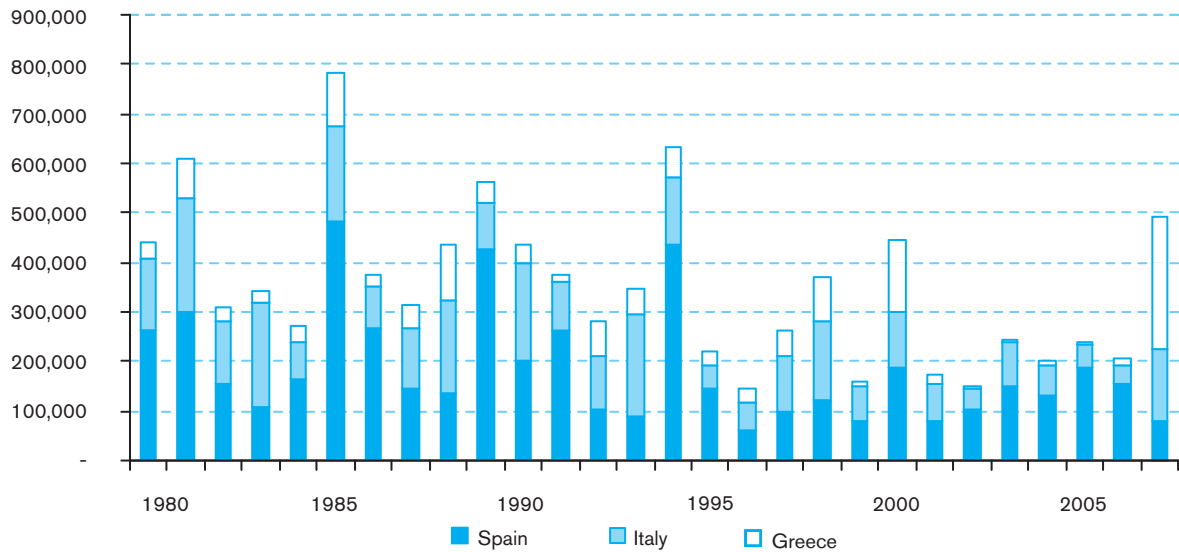
However, in 2007, Greece, Italy and Spain on their own produced a total of 495,000 hectares burnt (in 21,000 fires) making them the main affected countries (according to official statistical data from the three countries).

Taking just Greece, Italy and Spain, Chart 22 shows the outcome for areas burnt in those three countries from 1980 to 2007. The 2007 total is 1.4 times the average over the last 27 years. We must look back to 1994 to find a higher level, in the region of 632,000 hectares. Chart 23 illustrates how the number of fires recorded in those three countries from 1980 to 2007 evolved. The 2007 figure represents just over 75% of the average number registered over the last 27 years.

### *The 2007 Fire Season in Greece*

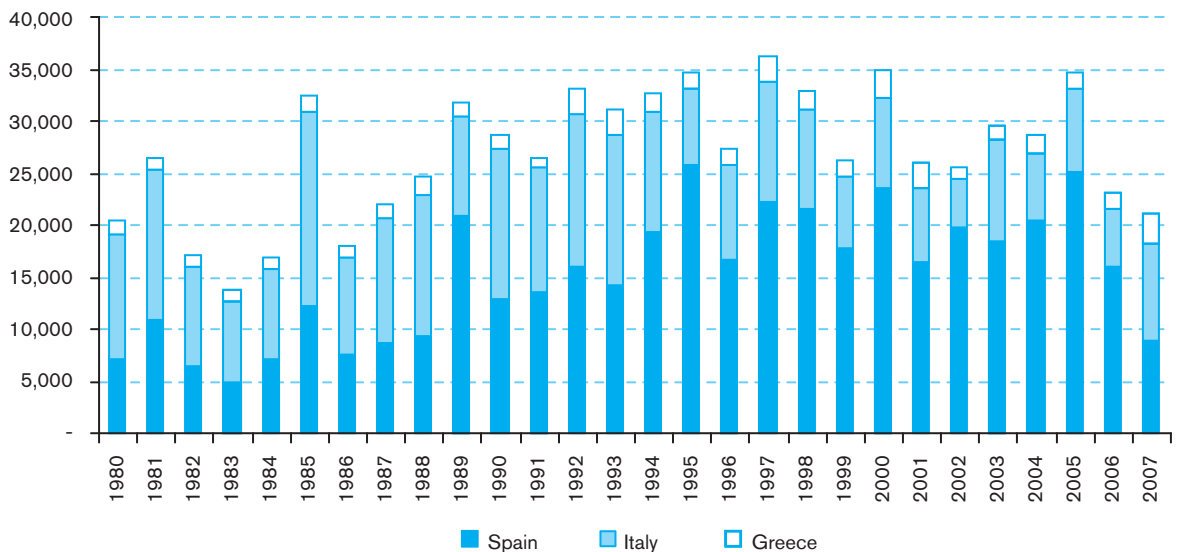
In Greece, the heatwave, following months of drought, struck in three surges starting in June with temperatures of over 40°C, “a temperature record not seen for 107 years”, according to Greek government sources.

CHART 22 Areas Burnt in Spain, Italy and Greece (hectares)



Source: Greek statistical data: Directorate General for Development and Protection of Forests and Natural Environment, Ministry of Rural Development and Foods; Italian statistical data: Corpo Forestale dello Stato, Ministero delle Politiche Agricole e Forestali, Spanish statistical data: Dirección General para la Biodiversidad, Ministerio de Medio Ambiente.

CHART 23 Number of Forest Fires in Spain, Italy and Greece



Source: Greek statistical data: Directorate General for Development and Protection of Forests and Natural Environment, Ministry of Rural Development and Foods; Italian statistical data: Corpo Forestale dello Stato, Ministero delle Politiche Agricole e Forestali, Spanish statistical data: Dirección General para la Biodiversidad, Ministerio de Medio Ambiente.

So the 2007 fires are the most devastating ever experienced by Greece. Thus, 270,000 hectares of woodland caught fire ravaging at least 250,000 olive trees and killing over 40,000 head of goats and sheep. This record is the worst in 50 years with a succession of large-scale forest fires that afflicted the Greek territory over that season. The most destructive and deadly fires broke out on 23rd August 2007, spread rapidly and were out of control for five days, affecting in similar measure

the mainly West and South of the Peloponnese and southern Eubea.

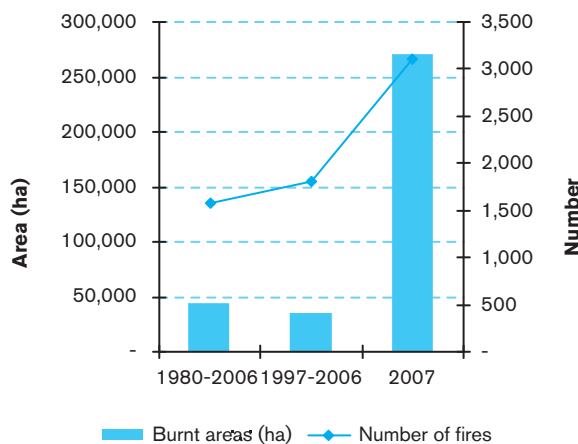
Serious ecological consequences were equally regrettable, notably with "Natura 2000" class sites affected, in proportions ranging from 8 to 50%. Sites of major environmental value, such as Olympia, the Taygetos and Parnonas mountains and the Selinountas and Vouraikou gorges, were badly hit. Local flora and fauna –especially jackals and tortoises – were greatly affected, with a large portion of the region's

already rare biodiversity also destroyed (WWF, 2007). So over 3,000 fires were recorded across the country from June to September.

As shown in Chart 24 (JRC-IES, 2007 and Greek official statistics), this tally of burnt areas is 7.6 times higher than that for the last ten years and 6.2 times that recorded over the last 27. The number of fires is also 1.7 times higher than that observed in these last ten years and twice that in the last 27.

As well as burnt areas, human and material losses are very high: never before had fires caused as many deaths in Greece which now totals as many victims of fires as the whole of Europe in 2003: 79 people died in those fires. The blazes likewise destroyed 1,000 homes and another 1,100 structures and caused damage to hundreds more (Polyzoidis, 2007).

**CHART 24** Number of Fires and Burnt Areas in Greece



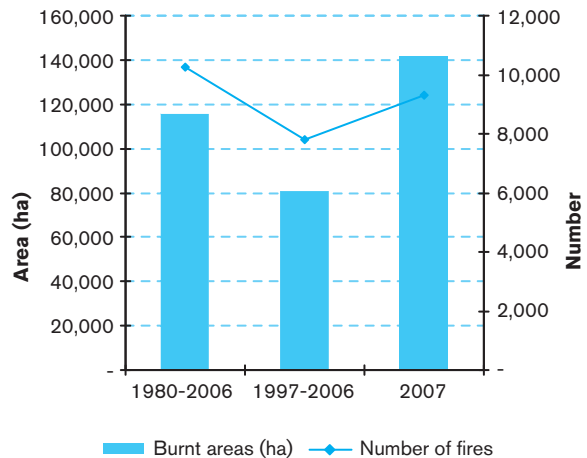
Source: Statistical data Greek: Directorate General for Development and Protection of Forests and Natural Environment, Ministry of Rural Development and Foods and JRC-IES 2007 report

### The 2007 Fire Season in Italy

Italy was similarly hit by a heatwave from June. This wave, associated with the “sirocco” phenomenon, a strong, hot and dry wind blowing up from the Sahara, dried out the vegetation in Sicily and Calabria.

Following a particularly favourable 2006 (the lowest number of fires and burnt areas since the early 70s), 2007 regained the level of 10 years previously with 141,341 hectares burnt, of which 68,094 were wooded hectares and 73,247 non-wooded, and no less than 9,318 fires recorded (JRC-IES, 2007 and Italian official statistical data). Those figures represent an increase relative to 2006

**CHART 25** Number of Fires and Burnt Areas in Italy



Source: Italian Statistical Data, Corpo Forestale dello Stato, Ministero delle Politiche Agricole e Forestali and JRC-IES Report, 2007

of 65% in the number of fires and 350% in terms of burnt area. Chart 25 demonstrates that the 2007 total for burnt areas is 1.7 times that observed over the last ten years and 1.2 times higher than in the last 27. The number of fires is 20% higher than in the preceding 10 years, but remains 10% below that over the last 27. Among the regions most affected are found Campania, Calabria, Abruzzo, Sardinia, Apulia, Marche, Lazio, Sicily and Basilicata.

Here too the count is of 18 victims. Sicily paid a heavy price with a total of twelve killed in the fires that ravaged the South of the Peninsula.

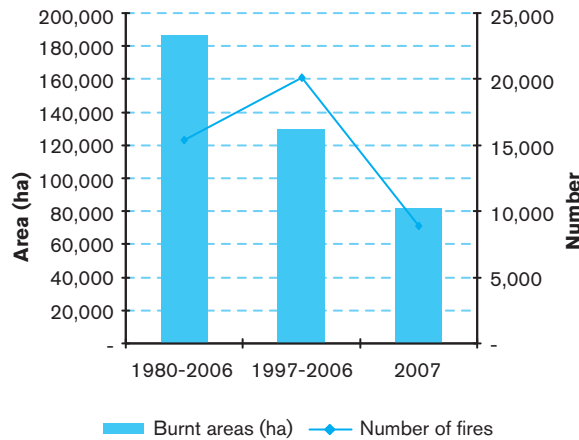
### The 2007 Fire Season in Spain

Compared to Greece and Italy, the Spanish case appears to contrast more clearly between continental Spain which enjoyed, after several years of drought, the rainiest month of August for five years, and the Canary Islands (notably Gran Canaria) which conversely were subject to an intense heatwave.

Thus the 2007 average seems favourable at first sight: 82,027 hectares destroyed, which was 50% less than in 2006 and the lowest degree of damage for 10 years, or stated another way, as can be seen in Chart 26, 63% of the average for the last ten years and 44% of that recorded going back these 27 years (JRC-IES, 2007 and official Spanish statistical data). As for the number of fires, they represent 44% of the mean level for the last ten years, and 58% of that over the last 27.

But this overall outcome, largely determined by very favourable weather in continental Spain, in reality

CHART 26 Number of Fires and Burnt Areas in Spain



Source: Spanish statistical data: Dirección General para la Biodiversidad, Ministerio de Medio Ambiente and JRC-IES, 2007.

sistance operation to a member state within the framework of the civil protection Mechanism since its creation in 2001. From the start of summer, the civil protection Mechanism has handled a total of 13 assistance requests from six countries. Thus at least eleven countries including France have participated actively this year in fighting catastrophic fires that, over the course of this summer, ravaged hundreds of thousands of hectares in southeastern European countries, most notably in Greece and Italy. Firefighters, fire engines, water pumping equipment, planes and helicopters have therefore been mobilised to tackle fires. These crises recall the urgent need for Europe to organise so it can provide an operational response that will permit the protection of its territory and its populations to be enhanced.

**Progress in firefighting and prevention has mainly contributed up to now to reducing burnt areas. The statistics bear witness to that. But it is not unreasonable to fear that, over forthcoming years, the number of fires that are very hard to control such as those experienced in 2007 will multiply**

*The Indispensable Role of Prevention*

Prevention also and above all needs to be at the heart of considerations. Apart from temperatures on the rise, it is socio-economic development, especially the flight from the countryside, which is responsible for aggravating the situation. Brushwood is no longer being cleared. Forests, too frequently underexploited, become especially vulnerable to fires becoming highly flammable and combustible. And, as a result, fires are becoming increasingly difficult to tame. Many countries have put prevention plans in place, but few have the capacity to set these plans in motion or apply existing legislation (legislation on brushwood clearance obligations for instance). Fighting drought in order to prevent forest fires could also be part of the measures to

masks the violent fires chiefly concentrated over end-July and early August on the Canaries archipelago, meaning Gran Canaria and Tenerife. A real catastrophe at an environmental level, these two very large fires ravaged in total more than 35,000 hectares of forest: around 20,000 hectares on the island of Gran Canaria – or over one third of the wooded area – and 15,000 hectares on Tenerife. These fires could lead to some thirty animal and plant species on these islands to disappear. The first had a criminal cause, while that of the second is unknown (official Spanish statistical data). The irregular topography of these islands and the weather limited the opportunity for land and air intervention and the violent winds prevented any intervention by helicopter, rendering control of the fire, not to mention the evacuation of nearly 13,000 people, extremely difficult.

**Some Additional Lessons from the Summer of 2007**

*The Importance of European Solidarity*

In 2007 European solidarity came fully into play, notably through the Community Civil Protection Mechanism (<http://ec.europa.eu/environment/>). Thirty states are signed up to this mechanism. They pool resources that can be made available to countries hit by catastrophes anywhere around the world. These activities are coordinated by the Commission supported by its *Monitoring and information Centre (MIC)*, of the Environment DG. It represents the most important as-

promote, as was called for in 2007 by European Union Environment Ministers.

*Adapting to the Risk of Climate Change and an Improved Understanding of Resilience to the Consequences of Fire*

Progress in firefighting and prevention has mainly contributed up to now to reducing burnt areas. The statistics bear witness to that. But it is not unreasonable to fear that, over forthcoming years, under the impact of climate change, the number of fires that are very hard to control such as those experienced in 2007 in Greece, Italy or on the Canaries archipelago will multiply.

It is important to underline that, more than burnt areas, the intensity and frequency of fires are aggravating factors. The fact is that a low intensity fire progresses sparing pockets of vegetation that will allow regeneration to take place more easily. Conversely, a very intense fire can not only affect thousands of hectares, but destroy everything in its track. Bearing in mind that it takes a tree 25 to 30 years to produce its first seed, if another fire occurs in that period the tree will burn without having been able to reproduce. The increasing frequency of fires could lead to an irreversible degradation of the environment, with woodlands being replaced by scrubland or thicket (Rigolot, 2007).

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Dirección General para la Biodiversidad, Ministerio de Medio Ambiente, Spain.

For further information:

<http://ec.europa.eu/environment/>

European Forest Fire Information System (EFFIS):  
<http://effis.jrc.it/Home/>