



ITALIAN MINISTRY OF AGRICULTURE
FOOD AND FOREST POLICIES



Italian Forest Corps



FOREST FIRES 2009

FOREST FIRES

2009

If you want to cultivate peace,
preserve creation.

Pope Benedict XVI

**XLIII WORLD PEACE DAY
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FOREWORD

Forest fires continue to be a complex issue that involves to an ever greater degree climate change as well as the behavioural patterns of the populations living in rural and mountainous areas. Recently, the situation has been causing social tension and alarm principally because the state of neglect of forested areas has triggered fires that have increasingly affected urban peripheries where human presence is significant (the so-called “interface” fires).

For these reasons, the Italian Forest Corps (CFS) has committed itself to defining the organisation, action, technique and methodology aimed at combating and keeping in check the situation, alongside the Civil Protection Department, other government, regional, provincial and city administrations as well as universities, study institutes, voluntary services and environmentalist associations. Hence the need to enhance increased synergies among the many institutional entities involved, and to implement across-the-board coordinated and systematic action, from the central all the way to the territorial and local levels.

What is also required is to cease relying so heavily on a “culture of emergency” by acting on several fronts: fire prevention in forested areas; strengthening of innovative risk prevention technologies; heightening of the professional skills of operators; monitoring the impact of fires on the environment, economy, society and population safety. Against this backdrop, the CFS has been utilising innovative technology capable of rapidly processing the significant amount of data that is gathered to facilitate decision-making processes, especially in those areas in the South of the country where fires are an all too often a recurring feature. Improving safety in the rural and mountainous areas of the *Mezzogiorno* is in fact an essential condition for the sustainable development of the Southern regions as a whole. This strategy is now supported by the commissioning of 19 special vehicles assigned to the Territorial Offices of Objective 1 – PON Safety Regions where the CFS is present, namely Campania, Basilicata, Calabria and Apulia.

Another key element is the implementation of those investigation techniques that contribute to define the territorial distribution of fires so as to be able to better understand the causes and reasons for their breakout and thus be in a stronger position to combat arson by restraining criminal activities, punishing the wrongdoings of agricultural operators and penetrating deeper into the character of the “pyromaniac” intended as a subject affected by socio-behavioural, psychiatric and psychopathological disorders.

In conclusion, one must add, there is the need to further improve the knowledge of forest fires in all its multifaceted aspects at an international level in order to be more effective in combating fires at a local level.

The Head of the Italian Forest Corps
Cesare Patrone

REFLECTIONS ON FOREST FIRES

ADDRESSING FOREST FIRES GLOBALLY – A VIEW FROM THE GLOBAL FIRE MONITORING CENTER (GFMC)

JOHANN GEORG GOLDAMMER

HEAD OF THE GLOBAL FIRE MONITORING CENTER (GFMC)



BIOGRAPHY

Since its establishment in 1998 Johann Georg Goldammer has been the head of the Global Fire Monitoring Center (GFMC). The GFMC is serving the United Nations, primarily through United Nations International Strategy for Disaster Reduction (UNISDR) and facilitating the Wildland Fire Advisory Group and the Global Wildland Fire Network.

After his service as naval officer in the German Navy he graduated in Forest Science at Freiburg University and served in the State Forest Service of Hesse State (Germany). In his doctoral dissertation he investigated the feasibility of using prescribed fire for stabilizing industrial pine plantations in Southern Brazil. The Fire Ecology Research Group, which he established at Freiburg University in 1979, and which transited to the Max Planck Society for the Advancement of Science in 1990, conducted a wide range of fire research and development projects in all continents.

Since 2001 he is serving as professor for fire ecology in fire ecology. Since 2005 the GFMC is an Associate Institute of the United Nations University (UNU). Since 1988 he is editor of UNECE-FAO International Forest Fire News (IFFN) as one of the core tasks of his lead of the UNECE-FAO Team of Specialists on Forest Fire.

In 2001 the GFMC has been awarded the UN Nations Sasakawa Award for Disaster Reduction, in 2008 the “Golden Fire Swatter” (El Batefuegos de Oro) by Spain and in 2009 the Memorial Medal of the Federal Forest Agency, Ministry of Agriculture, Government of the Russian Federation.

THE GLOBAL FIRE MONITORING CENTER: THE BEGINNING

The situation that was reason and trigger for the foundation of the Global Fire Monitoring Center (GFMC) goes back to 1997-98 when a severe El Niño event resulted in global disturbance of weather patterns and fire regimes. In South East Asia the combination of an extended drought and of the practicing the traditional slash-and-burn agriculture led to the fact that for months the whole Southeast Asian region was covered by fire smoke, affecting the health millions of people, resulting in severe disturbances of air, land and marine traffic, causing accidents and fatalities.

The Indonesian government called the international community for assistance to "extinguish forest fires raging in Borneo". And governments responded, sending firefighting equipment often not suitable or convincing.

Following similar experiences in other countries, this fire episode was the signal for us to build the GFMC, to assist countries with limited to none capacities in fire management, or lacking policies and strategic visions to cope with the fire problems. The idea was also assist the international community to identify the need to manage fire in valuable ecosystems, those needing fire as an integrated dynamic factor, ecosystems that are rather resilient to fire human-made or natural fire, or those that are sensitive and vulnerable to fire; and to identify reasons for people to burn, the "underlying causes" of fire use, the needs, role and potential of local communities in managing fire.

BUILDING INTERNATIONAL ALLIANCES IN FIRE MANAGEMENT

The German Foreign Office, Office for the Coordination of Humanitarian Assistance, provided the seed funding for the establishment of the GFMC at the Fire Ecology Research Group based in Freiburg, Germany. On 28 October 1998 the GFMC website was inaugurated at the FAO Meeting on, Public Policies Affecting Forest Fires. Soon the GFMC started to work with UN agencies and programmes, including the International Tropical Timber Organization (ITTO) and the World Bank, to create an efficient alliance through harmonized collective and coordinated action at international level. An opportunity was offered when the IDNDR transited to the UN International Strategy for Disaster Reduction (UNISDR) in the year 2000. Following a proposal of the Global Fire Monitoring Center (GFMC) and the World Conservation Union (IUCN), the UNISDR member states in 2001 created a dedicated Working Group on Wildland Fire, in which the major UN and other international organizations participated. In 2004 the Working Group transited formally to the Global Wildland Fire Network, a partnership between 14 Regional Wildland Fire Networks.

DO WE NEED TO ENHANCE INTERNATIONAL COOPERATION?

In principle countries are responsible for the protection of their vegetation resources and society from damaging or destructing effects of wildfires and excessive burning practices. However, numerous cases in the recent years have demonstrated the need for sharing knowledge, experience and capabilities in fire management between countries. We can certainly learn from each other, here in Europe as well as internationally. The problems associated with land-use change, for instance, constitute a phenomenon that is rather common in many countries. All over Europe the rapid trend of urbanization of society, the decreasing land-use intensity, shrinking and over-aging rural populations, which is actively involved in land use and available for local response to a wildfire, have created wildfire risks that are unprecedented in our cultural history.

In the wealthy industrial countries people are leaving the cities and building homes in highly flammable environments. In some less developed and poor countries, people cannot survive any longer in the growing cities and are returning to the countryside, often less experienced than their ancestor's generations, less knowledgeable concerning the opportunities and risks of fire use. In both cases the vulnerability of people to fires burning in the rural space is increasing.

Besides learning from experience in other countries there are other issues and threats that are reason for taking collective international responsibility: The transboundary effects of fires and the need to protect globally shared assets from fire destruction. Fire in many regions do not respect borders between countries. Smoke pollution generated from vegetation fires in one country may affect people and safety in other countries. The consequences of vegetation fire destruction on ecosystem stability and water regimes often have a transboundary nature. And fire emissions have an impact on the composition and functioning of the global atmosphere and thus to climate change. And finally – some of the world's heritage of biodiversity, e.g. the fire-sensitive tropical rain forest ecosystems, are threatened by wildfires.

Learning from countries in which targeted wildfire prevention programmes are successful is most important. But sometimes we also need to cooperate in emergency situations. Here we need to provide a mechanisms of sharing all the resources that are needed for the proper analysis, prediction and response to fire on a partnership basis.

But yet, there is more to do. At moment we are learning from past projects and missions in support of partner countries. Italy, for instance, has demonstrated its ability to support countries in building national capacity on fire management. GFMC in some cases built on investments made by Italy, e.g. in some Balkan countries such as Albania and Kosovo. The dispatch of aerial firefighting resources of Italy in the frame of the European Community Civil Protection Mechanism and other out-of-area missions has proven the willingness of Italy's government and society. The skills of pilots to assist on foreign territories where needed.

There is still a long way to go for all countries to increase the efficiency of international cooperation in fire management. A common language, unified or compatible incident management systems, and a standardized system for firefighting is needed. This includes the possibility of dispatch of firefighters who have the full technical, physical and - most importantly - the cultural competency communication skills.

ASYMMETRIC FIRES

Looking at millions of wildfires burning annually worldwide, resulting in approximately more than 300 million hectares of vegetation burned— where are the needs, limitations, and risks of intervention? The extreme fires that affected the Southern European countries between 2003 and 2007 and the destructive wildfires that hit Australia or California during the recent years revealed that there is a new dimension of threat by fires under extreme conditions, often referred to as “megafires”. We have recognized that fires burning under extreme conditions of fuel loads and fire weather in many cases are difficult yet even impossible to control. The asymmetry of these extreme fires is the fact that one single “megafire” may consume resources and destroy as many values as is the case for the hundreds and thousands of fires burning under “average” conditions.

An asymmetry of fire threats, however, is also manifested by the events which are monitored, investigated and followed up by the GFMC. In the recent years the GFMC has been dealing with fires that are mostly untold in the media and the public not informed. Fires that have been burning as a consequence and collateral damages of armed conflicts, e.g. in Afghanistan, the Southern Caucasus, or the Near East (Israel or Lebanon) between 2006 and 2009 did not enter the media. The damages that these fires cause to the local populations can be rather high since firefighting during conflict is dangerous and is often impossible due to military combat action.

The heritage of wars and military presence poses additional threats, e.g. during wildfires burning on terrain contaminated by land mines and unexploded ordnance (UXO). More than 600,000 ha of land of Germany (corresponding to 2% of Germany’s territory) is contaminated by unexploded ammunition from wars, particularly on combat sites of the end of World War II. Explosions during forest fires on these terrains are common and have resulted in casualties. Several hundred thousands of hectares of forests and other lands in some Balkan states, such as Croatia and Bosnia and Herzegovina, are covered by land mines, which prohibit ground-based fire fighting. Massive explosions of ammunition of World War I were noted near Bitola in Macedonia in 2007; unexploded cluster bombs residuals of the Israel-Lebanon war in 2007, and ammunition consisting of depleted uranium are sitting uncontrolled on the ground in the Balkan region.

And - who took note of the calls for the “Forest Jihad”, repeatedly announced by islamistic groups since 2003 in Australia and the U.S.A. and elsewhere? The appeal

to use fire as a weapon of terrorism against the against “crusader” nations stressed that “targeted forests” are in the nations that “are at war with Muslims,” including the United States, Europe, Russia, and Australia.

SMOKE HAZE – JUST A QUESTION OF REDUCED VISIBILITY?

Finally, there is the smoke. Smoke which releases and carries gas and particle emissions to the atmosphere – influencing the radiation balance of planet Earth. Fire emissions contribute to global warming wherever carbon is injected into the atmosphere by the smoke plumes.

Other smoke products are toxic to humans, causing severe health problems (cardiovascular and respiratory diseases, lung cancer) and affect millions of people every year, particularly in the tropics and in the northern boreal zone. Even Europe is sometimes reached by smoke from peat and forest fires burning in Russia, and North America is receiving smoke clouds from Siberia as well, including traces of radioactive particles.

Indeed, most dangerous are the emissions burning on radioactively contaminated terrain, particularly in the territories of Ukraine, Russia and Belarus adjoining Chernobyl. As a result of the failure of the Chernobyl nuclear power plant, a total of 6 million ha of forest lands were polluted by radionuclides. This region constitutes the largest area in the world with the highest contamination by radionuclides and is located in a fire-prone forest environment in the center of Europe. Every year, hundreds of wildfires are occurring in the contaminated forests, peatlands, and former agricultural sites. Long-range transport of radionuclides lifted in the smoke plumes of wildfires and their fallout on large areas have been investigated in detail in the 1990s. Radioactive smoke plumes, containing caesium-137, were monitored several hundred kilometers downwind from the sites where fires occurred in May and August 1992. The problem has been addressed in the recently released *“Chernobyl Resolution on Wildfires and Human Security: Challenges and Priorities for Action to address Problems of Wildfires burning on Terrain Contaminated by Radioactivity, Unexploded Ordnance (UXO) and Land Mines”*.

UNTOLD HUMANITARIAN DISASTERS

And then there are the untold fire disasters, those that are not burning in Southern Europe, North America or Australia. Who reported about the disastrous fire episode in Nepal during 2009? The fires burning in Bhutan, those scorching the sparse vegetation in the Mount Everest range? The fires devastating and often completely eliminating hundreds of villages throughout Africa every year?

Out of this total amount of recorded fatalities the smaller number included wild-land firefighters. Most affected are civilians, particularly in the developing countries and notably the rural poor, those who are often not prepared to defend their property and families.

FINALLY AT A GLIMPSE: FIRE IN NATURE CONSERVATION

At the end of the Cold War, when the aforementioned former military exercise areas and shooting ranges in Germany were left by the WW-II allied forces had been handed back to the German government. However, in these areas where any agricultural or other economic activity was excluded, the “nature” was shaped by the manifold disturbances - resulting in the creation of unique ecosystems in which plant and animal species, many of the on the “Red List”, found their habitat requirements, survived and even expanded their occurrence.

With the abandonment of the military activities almost all of these areas were put under protection by nature conservation, designated as nature reserves or national parks. And then succession began to take over- : and suddenly the high-value conservation sites are threatened by natural processes. Very similar to the takeover of succession of the abandoned rural space throughout Europe - with the consequence of loss of open habitats and an increased fuel loads and thus wildfire hazard.

Starting in 2010 the GFMC will use prescribed fire to mimic disturbance, human-caused disturbances, that will assist and restore these valuable conservation sites. This follows the work of more than a decade of GFMC staff to apply or promote the application of prescribed fire in maintaining the openness and attractiveness of Europe’s cultural landscapes.

THE WAY AHEAD

The changing landscapes and vegetation cover at global level as well as here in Europe, driven by human interventions and climate variability, have dramatically changed fires regimes and - more significantly - the vulnerability of humans and human assets to fire. To prevent the large fires - “megafires” - as well as the asymmetric fires and its consequences in a globally altered environment is a challenge that can be solved only by increasing international cooperation, in which the always limited resources can be shared, as well as the often rather unique expertise of some specialists from throughout the world.

DATA COLLECTION AND SHARING

FIRE STATISTICS

Approved by a Decree issued by the Prime Minister following a CIPE deliberation, the National Statistics Programme (*Programma Statistico Nazionale – PSN*) was set up by the National Institute for Statistics, (ISTAT), with a view to singling out public interest surveys. Though the PSN is valid for three years, it is partially updated every year.

Considering its nationwide impact and the originality of the information coming from organised sources (operative units of the CFS and the autonomous regional and provincial councils), data collection activity is historically one of the PSN's tasks, under the data relating to “Agriculture, Forests and Fishing”. Chaired by the agriculture minister, the project has been entrusted to the CFS, which periodically disseminates the information gathered through its website and this publication. This information is partially also given by ISTAT through its publications such as the Italian Statistical Yearbook (*Annuario Statistico Italiano*).

DATA COLLECTION BY THE ITALIAN FOREST CORPS (CFS)

The rigorous and accurate data collection system that CFS utilises allows it to gather accurate information on wildfire that is not only wide ranging and articulate but also reliable. The following provides a brief summary of the way the system works and how the data base on wildfire is regularly updated.

Ever since the mountain-related information system (*Sistema informativo della montagna – SIM*) was activated in 1996, the CFS can claim to have a consolidated tradition in the utilisation of GIS systems in support of its institutional tasks of combating and preventing environmental crimes. Recently, the information system has activated a new procedure (*Fascicolo Evento Incendi – FEI*) through which data relating to wildfires is collected by the territorial divisions of the CFS. The procedure allows for the creation of a single file containing statistics describing each event (previously entered in the old AIB/FN file) as well as information relating to the investigations that have been carried out and GIS data from the frontline of the fire fighting activity.

THE WILDFIRE DATA COLLECTION ORGANISATIONAL MODEL

The CFS Regional Operative Centres (*Centrali Operative Regionali – COR*) activate the procedure indirectly through a programme that is handled by floor operators called Emergency Management (*Gestione Emergenze*), by immediately entering the information and handing the FEI over to the Local Station under whose jurisdiction the reported fire comes under.

The Local Station collects and enters data into an FEI according to a fixed timetable.

Province Headquarters coordinates the activities connected with the procedure besides checking the quality and accuracy of the information, which is then made public through FEI Publications (“Pubblicazione del FEI”).

The data contained exclusively in the published files contribute to the national wildfire statistics, which is a CFS prerogative throughout Italy.

TIME FRAME

The quality of the data collection process is also confirmed by the fact that each phase is given a specific deadline. Within 48 hours of the opening of an FEI by COR (although an FEI can be opened by another office or following a collective decision), the competent Local Station is to assess three electronic files to be named: “Opening”, “Assessment” and “Action” that provide a preliminary description of the event. Particular attention is given to the estimated surface affected by the fire. Entered into the “Action” file, the affected surface is distinguished between woodland and non-woodlands so as to consolidate the provisional statistics.

An FEI is completed by the Local Station within 60 days from it being opening. The Local Station then completes the files “Preliminary Investigation”, “Territory” and “Parcels” that contain the definite information, validated by the Local Station itself. Following the accurate localisation of the fire, the exact extension of the burned surface is provided. This is distinguished between woodland and non-woodland, with indications being given respectively of the forest type and the cadastral parcels involved.

Within 30 days from validation on the part of the competent Local Station, Province Headquarters must publish a Territorial File so that all information therein is available for statistical processing and for the Fire Cadaster. All data processing activity must be finalised by, and not later than, 15 January of the year following the outbreak of the fire.

FIRE CADASTER

When an FEI has been completed and published, some wildfire-related data, such as the perimeter of the fire, land use, cadastral data including place and date of the fire, are made available for local government bodies and institutions (regions, communes, prefectures, etc.), which can access this information by entering ‘consultazione delle aree percorse dal fuoco’ (consultation of the area affected by fire) available at the www.simontagna.it portal

This wildfire data acquisition procedure described above is applied in all the Regions where the CFS operates through its regional headquarters, present in all

ordinary Statute Regions. There may thus be some discrepancies with respect to the statistical data developed by those regional forest departments that utilise different methodologies.

FIRES

WILDFIRES IN 2009

In 2009, 5,422 fires occurred throughout the national territory, affecting a total surface area of 73,355 hectares, of which 31,060 were woodlands.

The number of fires is not very high; it is, in fact, one of the lowest in the last 40 years. The affected surface, though, is the widest, with the exception of 2007, since 2003. In reality, the total would not have been as high if it hadn't been for the events that occurred in Sardinia in July when thousands of hectares were destroyed by wildfire in just a few days, heavily influencing the national data. Of the total of all affected area, 50% was in Sardinia, where also 40% of all burned woodland was located.

While the number of wildfires fell by approximately 1,000 compared to 2008, fire affected 7,000 hectares more than the previous year. In this light, an additional 800 hectares of woodland burned in 2009 with respect to the previous year. In percentage terms, wildfires fell by approximately 15%, while the burned surface area by 10.5%. The woodland areas affected by fire rose 2.6%.

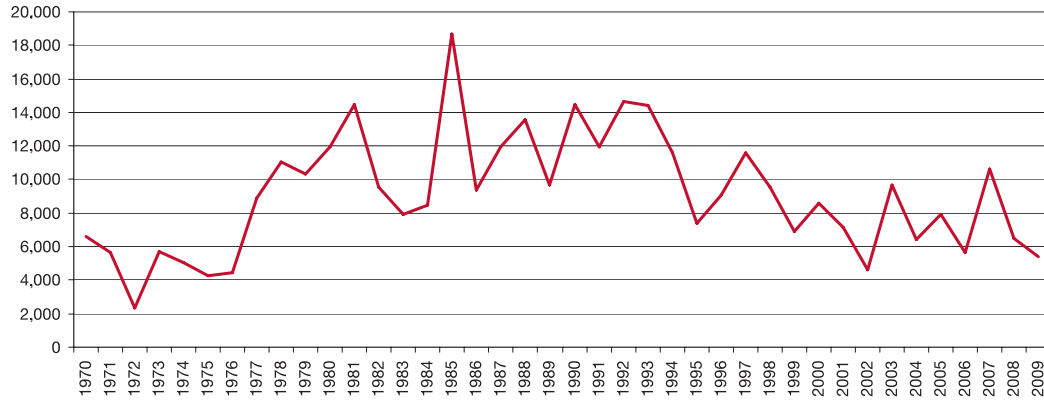
Following the negative peak in 2007, one of the worst years since records began; the number of fires was in line with the lower values of the 2000-2009 period, while the affected surface remained consistent. This means that the average surface affected by each fire, equivalent to 13.5 hectares, is the largest in the decade, with the exception of 2007.

In 2009, the area of woodland as a proportion of total burned area amounted to 42%. In the year under examination, the highest number of fires occurred in less steep areas (nearly 48% of fires occurred in areas where the inclination was under 20%) at low altitudes (66% of the fires developed in areas under 500 above mean sea level).

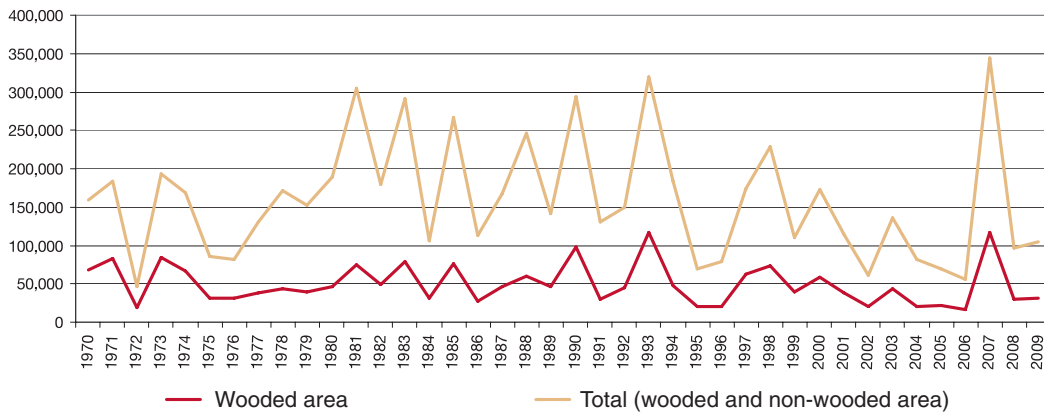
Over 70% of the burned surface areas in 2009 were privately owned.

YEAR	NUMBER	AREA AFFECTED BY FIRE (HA)			
		WOODED	NON-WOODED	TOTAL	AVERAGE
1970	6,579	68,170	23,006	91,176	13.9
1971	5,617	82,339	18,463	100,802	17.9
1972	2,358	19,314	7,989	27,303	11.6
1973	5,681	84,438	24,400	108,838	19.2
1974	5,055	66,035	36,909	102,944	20.4
1975	4,257	31,551	23,135	54,686	12.8
1976	4,457	30,735	20,056	50,791	11.4
1977	8,878	37,708	55,031	92,739	10.4
1978	11,052	43,331	84,246	127,577	11.5
1979	10,325	39,788	73,446	113,234	11.0
1980	11,963	45,838	98,081	143,919	12.0
1981	14,503	74,287	155,563	229,850	15.8
1982	9,557	48,832	81,624	130,456	13.7
1983	7,956	78,938	133,740	212,678	26.7
1984	8,482	31,077	44,195	75,272	8.9
1985	18,664	76,548	114,092	190,640	10.2
1986	9,398	26,795	59,625	86,420	9.2
1987	11,972	46,040	74,657	120,697	10.1
1988	13,588	60,109	126,296	186,405	13.7
1989	9,669	45,933	49,228	95,161	9.8
1990	14,477	98,410	96,909	195,319	13.5
1991	11,965	30,172	69,688	99,860	8.3
1992	14,641	44,522	61,170	105,692	7.2
1993	14,412	116,378	87,371	203,749	14.1
1994	11,588	47,099	89,235	136,334	11.8
1995	7,378	20,995	27,889	48,884	6.6
1996	9,093	20,329	37,659	57,988	6.4
1997	11,612	62,775	48,455	111,230	9.6
1998	9,540	73,017	82,536	155,553	16.3
1999	6,932	39,362	31,755	71,117	10.3
2000	8,595	58,234	56,414	114,648	13.3
2001	7,134	38,186	38,241	76,427	10.7
2002	4,601	20,218	20,573	40,791	8.9
2003	9,697	44,064	47,741	91,805	9.5
2004	6,428	20,866	39,310	60,176	9.4
2005	7,951	21,470	26,105	47,575	6.0
2006	5,643	16,422	23,524	39,946	7.1
2007	10,639	116,602	111,127	227,729	21.4
2008	6,486	30,273	36,055	66,328	10.2
2009	5,422	31,060	42,295	73,355	13.5

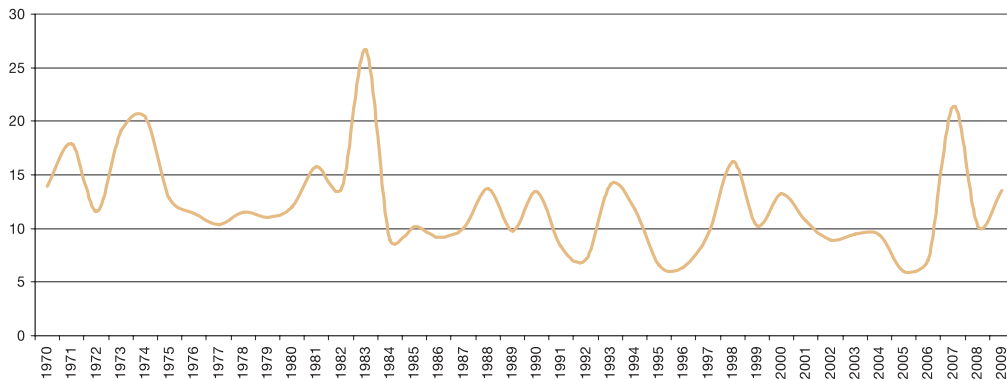
NUMBER OF FIRES 1970-2009



AREA AFFECTED BY FIRE 1970-2009



AVERAGE AREA BY FIRE 1970-2009



WILDFIRE BY REGION

An analysis of fires by Region in 2009 immediately highlights the situation that occurred in Sardinia, the region that was most affected by wildfire in terms of loss of property and lives. With its 37,104 hectares of affected surface area, out of which 12,270 was woodland, Sardinia was the critical point in 2009. The fires that occurred on the island impacted national wildfire figures significantly. Notwithstanding the lower number of fires compared to the previous year (684 in 2009 and 723 in 2008), the affected surface in Sardinia (including woodland) rose by around 800%. The gravity of the situation was probably due to the concentration of fires in the same day, July 23, when as many as five extensive fires burned thousands of hectares.

As for the rest of the peninsula, wildfires occurred in a significant way especially in the Southern Regions and on the islands, with a concentration of fires in Campania (903), in Sicily (762) and in Calabria (716). While in Campania fires increased with respect to the previous year, their number fell both Sicily and Calabria.

As for affected surface area, the regions most hit by fires – with the exception of Sardinia – were Sicily and Calabria in terms of extension, and Campania and Calabria in terms of the woodlands surface area burned.

Following Sardinia, the situation was very serious in Sicily, with 8,616 hectares of overall surface affected by fires, and Campania, 4,881 hectares of woodlands burned.

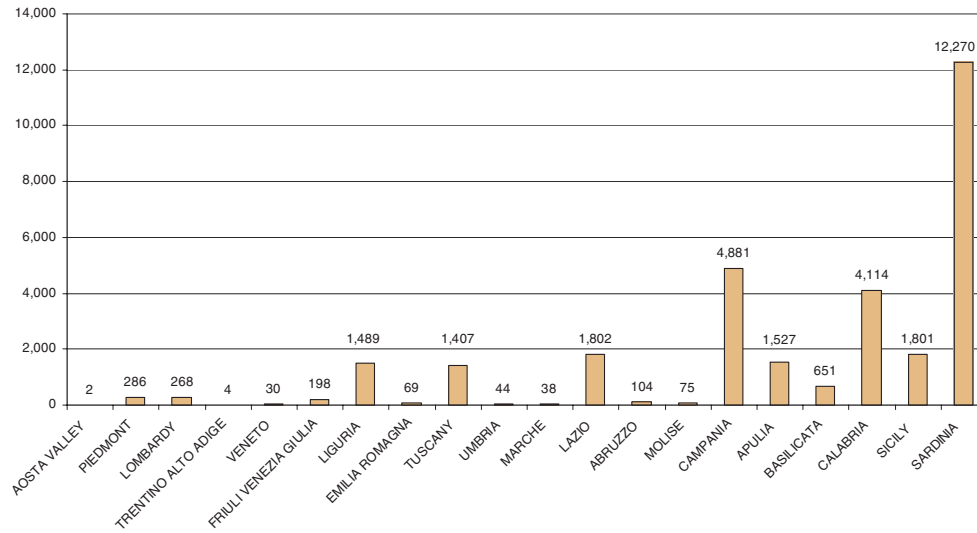
Calabria continues to be the region most constantly vulnerable to fire for a number of reasons related to the morphology of the terrain, the climate and the social conditions of the population. With its 549 fires, Tuscany is a case of local criticality with most events occurring in the province of Lucca. Clearly malicious in nature, the fires were constantly monitored and kept under check, so much that, despite their high number, fires were never too extensive and the regional average of fire affected surface area continued to be low at 3.3 hectares per fire. Among the Northern Italian regions, the worst damage was in Liguria, a region that is affected by fires both in summer and in winter, where there were 332 fires affecting 2,644 hectares, out of which 1,489 were woodlands.

Extensive wildfires occurred in Sardinia, where each fire affected an average surface of 54.2 hectares. This figure was particularly significant and significantly affected nationwide figures. Fires recorded an average extension in Apulia of 15.7 hectares per fire, in Sicily of 11.3 and Calabria 10.1.

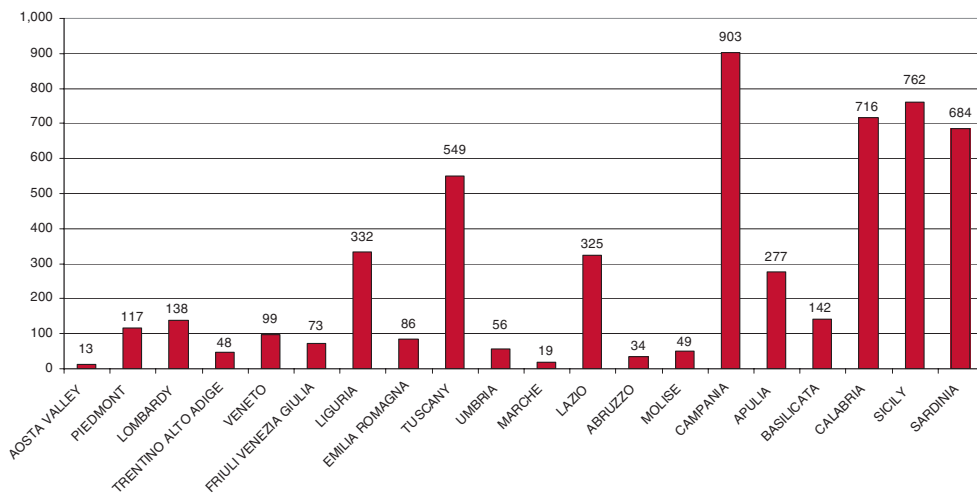
WILDFIRES IN ITALY BY REGION

REGION	NUMBER	SURFACE AREA AFFECTED BY FIRE (HA)			
		WOODED	NON-WOODED	TOTAL	AVERAGE
AOSTA VALLEY	13	2	5	7	0.5
PIEDMONT	117	286	87	373	3.2
LOMBARDY	138	268	128	396	2.9
TRENTINO A. A.	48	4	1	5	0.1
VENETO	99	30	24	54	0.5
FRIULI V. G.	73	198	156	354	4.8
LIGURIA	332	1,489	1,155	2,644	8.0
EMILIA ROMAGNA	86	69	102	171	2.0
TUSCANY	549	1,407	431	1,838	3.3
UMBRIA	56	44	11	55	1.0
MARCHE	19	38	25	63	3.3
LAZIO	325	1,802	726	2,528	7.8
ABRUZZO	34	104	55	159	4.7
MOLISE	49	75	111	186	3.8
CAMPANIA	903	4,881	1,321	6,202	6.9
APULIA	277	1,527	2,831	4,358	15.7
BASILICATA	142	651	390	1,041	7.3
CALABRIA	716	4,114	3,087	7,201	10.1
SICILY	762	1,801	6,815	8,616	11.3
SARDINIA	684	12,270	24,834	37,104	54.2
TOTAL	5,422	31,060	42,295	73,355	13.5

WOODED SURFACE AREA BY REGION



NUMBER OF FOREST FIRES BY REGION



THE MOST SERIOUS FIRES IN 2009

In reality, the harrowing scenario in Sardinia in 2009 was the outcome of a series of catastrophes occurring in a single day, 23 July, when among the many wildfires that broke out, five turned out to be very extensive, burning thousands of hectares.

In fact, the 23 July had been declared a “high risk of fire day” due to the weather forecast and emerging from the risk patterns developed by the Cagliari Regional Fire Fighting Operative Centre (Centro Operativo Regionale – COR) in cooperation with ARPA Sardinia and the Forestry Department of the University of Sassari (*Dipartimento Economia e Sistemi Arborei* – DESA). A state of alert had also been issued by the Civil Protection Department.

As it turned out, the weather on the 23, 24 and 25 July 2009 had become increasingly critical. During the night of the 22 and 23 July, the strong southerly winds had kept temperatures very high, never falling below 29/30°C, while relative humidity percentages across the region were very low.

Against this backdrop of extreme weather conditions, fire fighting capacity was soon under heavy pressure as reports started to arrive in the early hours of the day. During the night between 22 and 23, as many as 36 fires had broken out, among which two were extensive in Bonorva and Suni that wreaked widespread devastation. On that day, as many as 70 wildfires broke out in Sardinia.

The following are some of the worst.

- The fire in Bonorva, in the province of Sassari, was first reported at 04:58 am on 23 July. By the time it had been extinguished, at 10:00 pm of the 24 July, it had affected 9,500 hectares, of which 1,569 hectares were woodland, and had emerged as one of the most extensive fires ever recorded in Italy. This fire claimed the life of a farmer. Following the report, received by the “1515” hotline at the Sassari operative centre, all available personnel as well as land vehicles were sent to the site. Anela and Alà dei Sardi regional planes were immediately sent to the area but considering the rapidity of its propagation, a request was also made for COAU fire fighting units. Enhanced by a strong south-westerly wind and temperatures rising to 40°, the fire spread with extraordinary speed to the fertile pastures of Bonorva and Mores, before spreading in two fronts, one of which had reached the town of Giave at 2:15 pm, touching route 131 Sassari–Cagliari, which was consequently closed-off to traffic. As for the other front, it rapidly headed to the town of Mores. Notwithstanding the use of regional helicopters and COAU planes, fire fighting units were unable to control the fire, which made its way to the area of Ittireddu. Considering that there were numerous towns as well as isolated dwellings in the path of the fire, priority was given to saving lives. Fire extinguishing operations lasted throughout the day and continued the following day until 10:00 pm. Investigation carried out by the CFS and the local Environmental Police, showed that the fire was the consequence of an arson attack. Investigation by the Sassari Investigation Unit (Nucleo Investigativo di Sassari) was initiated and is still underway.
- The fire in Suni, in Oristano province, started at 02:10 am of 23 July and by the time

it was extinguished at 1:55 pm of 25 July, it had affected 5,161 hectares, of which 2,165 of woodland. The Fire Brigade, as well as all available personnel, responded swiftly, but by 03:22 am it had become necessary to evacuate several houses in Suni. At dawn, regional helicopters were called in, and planes were requested to fight not only the fire at Suni but also the other wildfires that had broken out at Morgongiori and Villaurbana, in the same province. A crisis unit was set up while other land vehicles were sent to the frontline of the fire.

As several fires had broken out at the same time, planes could not be sent out immediately to Suni. Considering also the difficult terrain that prevented the arrival overland of fire fighting units, the fire quickly spread in the direction of other towns. The fires that had broken out in other areas of the Oristano province, in addition, stretched resources to the limit, preventing the staff from a break or change in shift.

Operations lasted until 1:55 pm of 25 July. Investigations carried out by the CFS station at Bosa and the Investigative Unit of Oristano (Nucleo Investigativo di Oristano) led to the arrest of a farmer from Flussio, who had used fire to clear pastureland.

- The fire of Ittiri, in Sassari province, started at 1:55 am, 23 July and by the time it had been extinguished at 2:25 pm, 26 July, it had affected 4,610 hectares, of which 670 hectares were forested areas.

- The fire of Pau, in Oristano province, started at 1:00 pm of 23 July and by the time it had been extinguished at 6:00 pm, 28 July, it had affected 2,453 hectares, of which 1,122 hectares were forested areas.

The fire had been sighted and reported in good time, but all resources were already involved in other operations. A helicopter was sent out from Villasalto while firefighters were on the spot, but the crisis unit soon realised that fire fighting operations would be seriously hampered by the difficulties of the terrain and climate. The decision was thus taken to recall all off-duty staff and to reorganise all available forces. The fire raged with such violence, especially in the area around Mt. Arci that night time operations had to be called off. COAU units came into action the following day.

Operations at Pau (Mt. Arci) continued on 24, 25, 26 and 27 July, while clearing continued until 6:00 pm, 28 July.

The fire had been caused by human negligence, ignited by a Pau-based construction firm that had illegally burned waste.

- The fire in Olbia started at 11:05 am, 23 July and by the time it had been extinguished at 11:59 of the same day, it had affected 2,312 hectares, of which 1,452 hectares were forested areas.

It was a truly critical event because in a day when so many other fires were underway, this specific fire was affecting an area with a significant number of isolated houses and was heading towards the town of Loiri Porto San Paolo (OT) and surrounding villages. All vehicles were sent to the area including all land vehicles and the regional helicopter. Two Canadairs were also called into action considering that

this fire had been given priority status in view of the fact that it was threatening the town of Loiri, which had partly been evacuated. Though fire fighting operations lasted until 11.59 of the same day, clearing activities continued to the next day. Investigations carried out by the CFS and the environment police (CFVA) showed that the fire was started by a malfunctioning old tractor out in the fields. The alleged wrongdoer was taken into custody.

In the other Regions, the worst fires took place in Apulia, Liguria and Calabria.

- The fire in Gravina started at 1:00 pm, 16 June and was extinguished at 8:00 pm of 19 June. It affected Zone 1 of the Alta Murgia National Park and several other protected areas. Operations involved 10 CFS units, 10 Fire Brigade units, 31 workers of the Apulia Regional Council, four metropolitan policemen, nine volunteers. The fire was extinguished thanks also to the intervention of two Canadairs, two Fire Boss and one Erickson S 64F.

Investigations showed that the fires were caused by arson attacks as revealed by the fact that ignition points were discovered in the forested area in two specific zones. Aided by a strong wind and the presence of dry grass, the flames took the shape of a crown fire. The fire affected a total surface area of 1,108 hectares of conifer demesne, farmland, pastures and meadows. The arsonist/s have yet to be apprehended.

- The Genoa Nervi fire, near Genoa, started on 6 September. Fire fighting operations lasted from 2:30 pm of the same day to 11.00 am, 13 September. The fire was caused by burning started for clearing purposes that soon went out of control, spreading into a ground and canopy fire. The fire affected a total of 945 hectares, out of which 209 hectares were forested and 736 hectares non-forested areas. Operations saw the involvement of two Canadairs, two Erickson S 64F helicopters and three regional helicopters.
- The fire in Motta San Giovanni, in Reggio Calabria province. The fire started in a forested area at 5:00 am, 26 July and continued until approx 10:00 pm of the same day. It affected a total of 594 hectares, including 10 hectares of privately owned woodlands, 574 hectares of arable land and 10 hectares of uncultivated land. Operations also involved two regional helicopters and three Canadairs. The causes of the fires remain unknown.

FOREST FIRES BY MONTH

In line with the consolidated pattern recorded in Italy, wildfires in 2009 were mostly concentrated in summer – in July, August and the first-half of September – with an additional peak period at the end of winter, in March. Spring, with the exception of June which may be considered as a pre-summer period, as well as autumn, was also affected by fire but to a lower degree.

The number of fires rose sharply from July to August, before falling in September. Affected surface, though, increased as a consequence of the extensive fires that broke out in Sardinia on 23 July and in the following days, which contributed to bringing up the overall tally for the month.

In August, there were 1,836 fires in Italy. This figure amounts to 34% of the total number of fires that occurred in the year. The fires that occurred in August affected a total of 11,545 hectares, nearly 16% of the entire surface affected by fire during the year. In July there were 1,097 fires, 20% of the total, affecting 43,063 hectares, and 59% of total burned surface in 2009.

Summer weather persisted during the first fifteen days of September and this kept conditions at a critical level, to the extent that the total extension of forested and non-forested areas affected by fire was even higher than in the second-half of August. In the first 15 days of September there were 889 fires that affected 9,523 hectares, of which 5,779 hectares of forested areas. On the other hand, from 15 to 31 August there were 1,115 fires that affected 6,809 hectares, out of which 4,015 hectares of woodlands.

This situation was directly correlated to the climate, which not only favoured the propagation of fires but also acts a sociological factor stimulating arson attacks.

In winter months, the number of fires peaked in March, while in spring, fires occurred from April to June, intensifying as the good weather progresses and peaking in June. In March, 434 fires were recorded, affecting 1,441 hectares, of which over 1,000 hectares were woodland, mostly concentrated in the north where winter aridity is a feature.

From October to December, the phenomenon declined, intensifying slightly in the month of November, before declining to minimum levels in December.

In total, 72% of all the fires that occurred in the year were concentrated in the summer quarter. The surface area of these summer fires burned amounted to respectively 88% and 85% of total burned surface and forested areas during the year. These figures provide a clear picture of just how serious the wildfire phenomenon is during the summer months when all fire fighting resources are stretched to the limit.

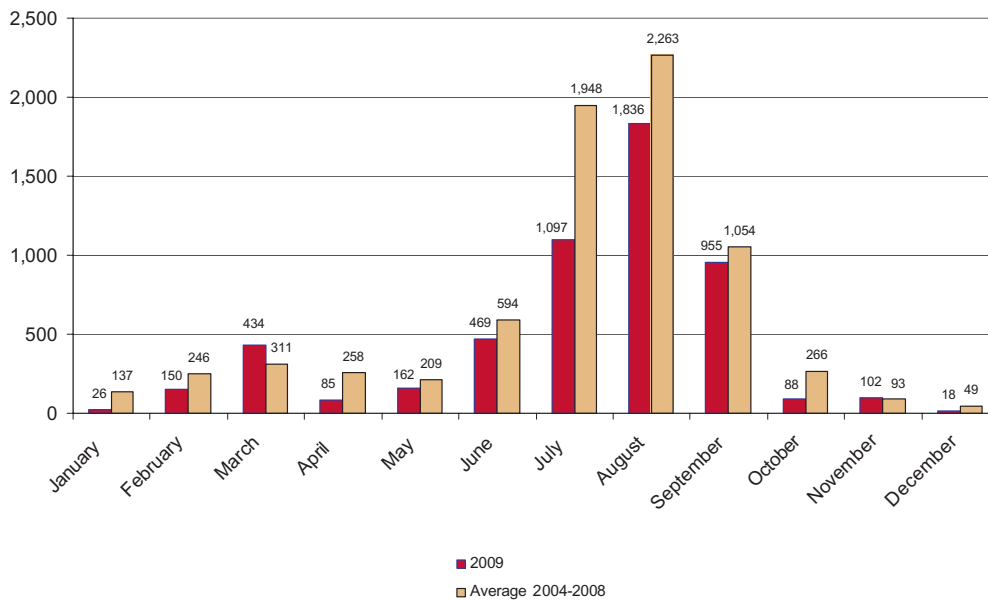
The winter (January-March) and spring (April-June) quarters were substantially unchanged in terms of number of fires and extension of burned forested surface. What did change was the total burned surface area which in spring was 5,299 hectares and in winter 1,907 hectares, as a consequence of the events occurring in March (fortnightly and quarterly data can be consulted at www.corpoforestale.it).

WILDFIRES IN ITALY

BY MONTH

MONTH	NUMBER	SURFACE AREA AFFECTED BY FIRE (HA)			
		WOODED	NON-WOODED	TOTAL	AVERAGE
JANUARY	26	42	11	53	2.0
FEBRUARY	150	195	217	412	2.7
MARCH	434	1,085	356	1,441	3.3
APRIL	85	98	94	192	2.3
MAY	162	182	166	348	2.1
JUNE	469	1,280	3,479	4,759	10.1
JULY	1,097	14,498	28,565	43,063	39.3
AUGUST	1,836	6,093	5,452	11,545	6.3
SEPTEMBER	955	5,826	3,878	9,704	10.2
OCTOBER	88	67	41	108	1.2
NOVEMBER	102	1,674	21	1,695	16.6
DECEMBER	18	20	15	35	1.9
TOTAL	5,422	31,060	42,295	73,355	13.5

NUMBER OF FOREST FIRES BY MONTH



FIRES CLASSIFIED BY SIZE

Fires are classified by size which is inversely proportional to their frequency. It is interesting however to observe the entirety of this distribution, especially in connection with the impacted surface area. In 2009, nearly half of the fires, i.e. 44.6% corresponding to 2,421 events, extended over an area of less than 1 hectare, for a total of 716 hectares (1% of total burned surface area).

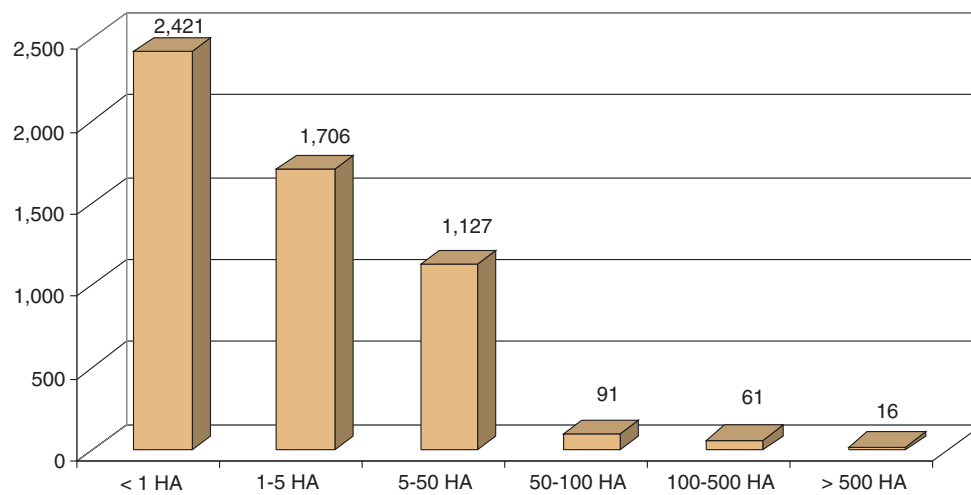
76.1% of fires did not extend beyond five hectares, i.e. 4,829 fires, which is equivalent to 6.6% of the total burned surface area.

The size class of between 5 and 100 hectares utilised until 2007, has been split up to introduce the 50-hectare threshold. It was consequently shown that 22.3% of fires fell within the under-50 hectares threshold, while merely 8.1% were classified in the 50 to 100 hectare size class.

Last year was the first in which extensive fires had a significant impact on the total of the burned surface area. Just 16 fires, in fact, reached an extension of over 500 hectares and affected 34,253 hectares, 46.7% of the overall burned surface area and 33.5% of all burned woodland.

WILDFIRE BY		CLASS SIZE		
CLASS	NUMBER OF FIRES	PERCENTAGE	TOTAL SURFACE (HA)	PERCENTAGE
< 1 HA	2,421	44.6	718	1.0
1-5 HA	1,706	31.5	4,111	5.6
5-50 HA	1,127	20.8	16,387	22.3
50-100 HA	91	1.7	5,954	8.1
100-500 HA	61	1.1	11,932	16.3
> 500 HA	16	0.3	34,253	46.7
TOTAL	5,422	100	73,355	100

NUMBER OF FOREST FIRES BY SIZE CLASS



WILDFIRES BY REGION
UNDER 1 HA

REGION	NUMBER	SURFACE AFFECTED BY FIRE (HA)		
		WOODED	NON-WOODED	TOTAL
AOSTA VALLEY	12	2	2	4
PIEDMONT	73	17	4	21
LOMBARDY	71	17	3	20
TRENTINO A.A.	46	2	1	3
VENETO	88	8	13	21
FRIULI V.G.	62	5	9	14
LIGURIA	219	39	12	51
EMILIA ROMAGNA	51	11	6	17
TUSCANY	418	81	23	104
UMBRIA	50	15	4	19
MARCHE	10	2	0	2
LAZIO	99	31	4	35
ABRUZZO	10	2	1	3
MOLISE	28	10	2	12
CAMPANIA	346	113	27	140
APULIA	86	23	10	33
BASILICATA	52	15	3	18
CALABRIA	222	78	14	92
SICILY	56	10	11	21
SARDINIA	422	44	44	88
TOTAL	2,421	525	193	718

WILDFIRES BY REGION
BETWEEN 1 HA AND 5 HA

REGION	NUMBER	SURFACE AFFECTED BY FIRE (HA)		
		WOODED	NON-WOODED	TOTAL
AOSTA VALLEY	1	0	3	3
PIEDMONT	28	50	11	61
LOMBARDY	48	77	31	108
TRENTINO A.A.	2	2	0	2
VENETO	9	8	10	18
FRIULI V.G.	6	6	6	12
LIGURIA	67	135	49	184
EMILIA ROMAGNA	27	25	30	55
TUSCANY	92	136	75	211
UMBRIA	5	9	2	11
MARCHE	5	10	4	14
LAZIO	118	254	44	298
ABRUZZO	17	29	12	41
MOLISE	11	9	11	20
CAMPANIA	341	608	183	791
APULIA	98	144	84	228
BASILICATA	47	87	32	119
CALABRIA	244	464	155	619
SICILY	399	161	849	1,010
SARDINIA	141	149	157	306
TOTAL	1,706	2,363	1,748	4,111

WILDFIRES BY REGION
BETWEEN 5 HA AND 50 HA

REGION	NUMBER	SURFACE AFFECTED BY FIRE (HA)		
		WOODED	NON-WOODED	TOTAL
AOSTA VALLEY	0	0	0	0
PIEDMONT	15	170	52	222
LOMBARDY	18	106	78	184
TRENTINO A.A.	0	0	0	0
VENETO	2	14	1	15
FRIULI V.G.	3	32	5	37
LIGURIA	40	499	115	614
EMILIA ROMAGNA	8	33	66	99
TUSCANY	29	245	157	402
UMBRIA	1	20	5	25
MARCHE	4	26	21	47
LAZIO	100	998	373	1,371
ABRUZZO	7	73	42	115
MOLISE	10	56	98	154
CAMPANIA	193	2,307	674	2,981
APULIA	80	560	610	1,170
BASILICATA	39	313	268	581
CALABRIA	222	2,058	1,161	3,219
SICILY	276	778	3,054	3,832
SARDINIA	80	568	751	1,319
TOTAL	1,127	8,856	7,531	16,387

WILDFIRES BY REGION
BETWEEN 50 HA AND 100 HA

REGION	NUMBER	SURFACE AFFECTED BY FIRE (HA)		
		WOODED	NON-WOODED	TOTAL
AOSTA VALLEY	0	0	0	0
PIEDMONT	1	49	20	69
LOMBARDY	1	68	16	84
TRENTINO A.A.	0	0	0	0
VENETO	0	0	0	0
FRIULI V.G.	1	15	68	83
LIGURIA	3	125	102	227
EMILIA ROMAGNA	0	0	0	0
TUSCANY	6	290	42	332
UMBRIA	0	0	0	0
MARCHE	0	0	0	0
LAZIO	6	336	131	467
ABRUZZO	0	0	0	0
MOLISE	0	0	0	0
CAMPANIA	16	728	256	984
APULIA	6	188	198	386
BASILICATA	3	100	87	187
CALABRIA	20	542	750	1,292
SICILY	14	243	656	899
SARDINIA	14	297	647	944
TOTAL	91	2,981	2,973	5,954

WILDFIRES BY REGION
BETWEEN 100 HA AND 500 HA

REGION	NUMBER	SURFACE AFFECTED BY FIRE (HA)		
		WOODED	NON-WOODED	TOTAL
AOSTA VALLEY	0	0	0	0
PIEDMONT	0	0	0	0
LOMBARDY	0	0	0	0
TRENTINO A.A.	0	0	0	0
VENETO	0	0	0	0
FRIULI V.G.	1	140	68	208
LIGURIA	2	481	142	623
EMILIA ROMAGNA	0	0	0	0
TUSCANY	4	655	134	789
UMBRIA	0	0	0	0
MARCHE	0	0	0	0
LAZIO	2	183	174	357
ABRUZZO	0	0	0	0
MOLISE	0	0	0	0
CAMPANIA	7	1,125	181	1,306
APULIA	6	435	998	1,433
BASILICATA	1	136	0	136
CALABRIA	7	962	422	1,384
SICILY	17	609	2,245	2,854
SARDINIA	14	1,186	1,656	2,842
TOTAL	61	5,912	6,020	11,932

WILDFIRES BY REGION
OVER 500 HA

REGION	NUMBER	SURFACE AFFECTED BY FIRE (HA)		
		WOODED	NON-WOODED	TOTAL
AOSTA VALLEY	0	0	0	0
PIEDMONT	0	0	0	0
LOMBARDY	0	0	0	0
TRENTINO A.A.	0	0	0	0
VENETO	0	0	0	0
FRIULI V.G.	0	0	0	0
LIGURIA	1	210	735	945
EMILIA ROMAGNA	0	0	0	0
TUSCANY	0	0	0	0
UMBRIA	0	0	0	0
MARCHE	0	0	0	0
LAZIO	0	0	0	0
ABRUZZO	0	0	0	0
MOLISE	0	0	0	0
CAMPANIA	0	0	0	0
APULIA	1	177	931	1,108
BASILICATA	0	0	0	0
CALABRIA	1	10	585	595
SICILY	0	0	0	0
SARDINIA	13	10,026	21,579	31,605
TOTAL	16	10,423	23,830	34,253

FIRES CLASSIFIED BY DURATION

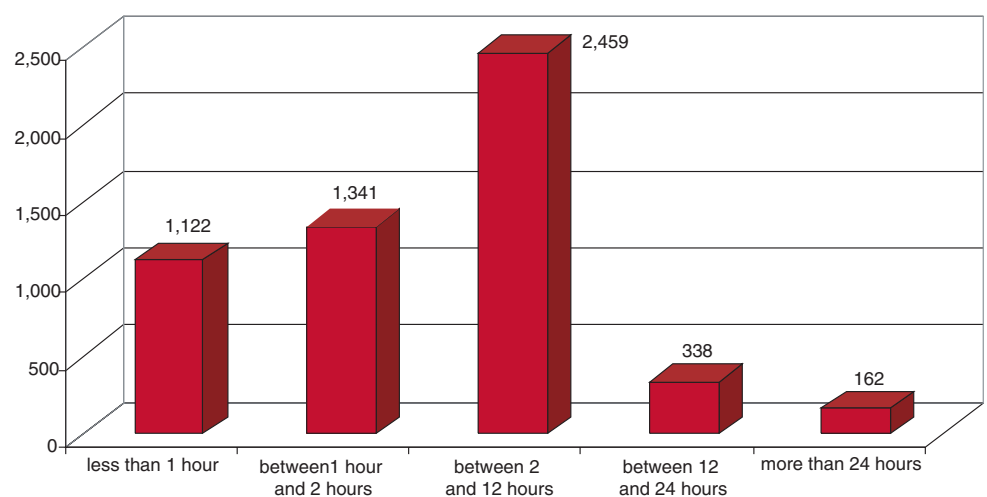
The duration of a fire is the time that elapses from its outbreak to it being extinguished. The start of the fire, in most cases, is estimated in relation to the situation at the time of the assessment by taking into account the surface that has already been burned, the type of vegetation and the weather conditions.

In 2009, 45% of fires lasted between 2 to 12 hours. 46% were extinguished under 2 hours (25% between 1 and 2 hours and 21% within an hour). These figures show just how efficient the fire fighting system is. Thanks to the rapidity of its response the duration of each fire was significantly limited and the extent of loss curtailed.

Only 6% of fires lasted between 12 and 24 hours, while those lasting more than 24 hours represented a mere 3% of the total number of wildfires.

DURATION	NUMBER	PERCENTAGE
< 1 HOUR	1,122	21
1-2 HOURS	1,341	25
2-12 HOURS	2,459	45
12-24 HOURS	338	6
> 24 HOURS	162	3
TOTAL	5,422	100

NUMBER OF FOREST FIRES BY DURATION



FORESTED AREAS AFFECTED BY FIRE

While still significant, the proportion of burned forested areas out of the total area affected by fire has been declining over the past few years. In 2007, burned wooded areas amounted to 51% of the total; in 2008 it was 46%, down to 42% in 2009. Nearly 40% of the forested areas hit by fire in the year under examination were in Sardinia, with its 12,270 hectares of burned woodland, making it the worst affected region in Italy.

The situation was also bad in Campania where nearly 80% of all burned area was woodland (4,881 hectares, equivalent to 79% of the regional total of burned surface area), and in Calabria (4,114 hectares, corresponding to 57% of all burned surface area). In both regions, hardwood forest were the worst affected, with 1,913 hectares in Campania and 1,316 hectares in Calabria. In the previous year, Campania had recorded a high proportion of burned woodland, with a percentage of 74%. The highest percentage of destroyed resinous forest trees was recorded in Tuscany, where 1,000 hectares of conifer forests were burned.

The following tables and graphs refer to data collected in regions where the CFS operates, consequently the aggregates do not correspond to national aggregates. The F.E.I procedure allows for the attribution of the forested areas affected by fire to the 27 inventory categories and can be consulted in the “Incendi” section of www.cor-poforestale.it.

At the conclusion of the present analysis, the information has been collated into four groups: RESINOUS FOREST TREES, HARDWOOD FOREST, COPSE, OTHER. These categories differ from those utilised in the past inasmuch as they do not include the MIXED FOREST category among the hardwood trees, and the diversifications of COPSE, for which reference is made to the species rather than to the structure.

In 2009, 50.4% of forested areas affected by fire consisted of hardwood forests, including 4,800 hectares of resinous hardwood. Copse made up 20.8% of total burned woodland, while the other categories, including the Mediterranean Maquis, amounted to 28.8% of all burned wooded areas.

In 2008, the extension of hardwood forests affected by fire was greater; nevertheless its percentage on the total was lower as a consequence of the larger areas of copse that burned.

2009

FORESTED AREAS BY FOREST MANAGEMENT SYSTEM (HA)

REGION	CONIFER HIGH FOREST	BROAD LEAVED HIGH FOREST	COPPICE	OTHER	TOTAL
PIEDMONT	51.0	134.3	100.8	0.0	286.1
LOMBARDY	27.0	183.8	57.6	0.0	268.4
VENETO	4.1	21.4	4.5	0.4	30.4
LIGURIA	737.6	105.4	554.1	92.1	1,489.2
EMILIA ROMAGNA	6.4	23.9	29.8	8.8	68.9
TUSCANY	1,004.6	141.8	199.6	61.2	1,407.2
UMBRIA	3.4	7.2	31.6	1.6	43.8
MARCHE	4.7	2.4	16.4	14.3	37.8
LAZIO	86.6	381.4	291.8	1,042.0	1,801.8
ABRUZZO	12.5	22.2	59.7	9.6	104.0
MOLISE	3.0	30.8	29.7	11.5	75.0
CAMPANIA	489.5	1,913.5	1,401.2	1,076.6	4,880.8
APULIA	695.1	213.9	66.0	552.3	1,527.3
BASILICATA	96.3	269.9	92.6	191.8	650.6
CALABRIA	469.8	1,316.4	549.0	1,778.5	4,113.7
TOTAL	3,691.6	4,768.3	3,484.4	4,840.7	16,785.0

2000-2009

FORESTED AREAS AFFECTED BY FIRE BY FOREST MANAGEMENT SYSTEM (%)

YEAR	HIGH FOREST	COPPICE	OTHER	TOTAL
2000	40.5	38.5	21.0	100
2001	39.3	34.9	25.8	100
2002	26.4	59.3	14.3	100
2003	39.7	35.3	25.0	100
2004	27.3	39.4	33.3	100
2005	27.0	33.5	39.5	100
2006	29.2	33.8	37.0	100
2007	40.7	38.4	20.9	100
2008	47.8	28.7	23.5	100
2009	50.4	20.8	28.8	100

WILDFIRES IN PROTECTED AREAS

There were 498 fires in protected areas in 2009, considerably lower than the 747 recorded in 2008. Fire affected 5,727 hectares in parks and national reserves, significantly down from the 8,349 in 2008.

The extension of forested land burned by fire was also down albeit less significantly. 3,183 hectares of protected forests were impacted by fires 2009, down from 4,953 in 2008. Particularly affected were Campania and Apulia where wildfires destroyed a significant acreage of wooded and non-wooded areas.

The most critical events took place in Alta Murgia national park in Apulia where nearly 2,000 hectares burned (including 600 hectares of woodland) and in the Monti Picentini regional park in Campania where over 800 hectares of woodland were impacted by fire.

The situation was also critical at the Cilento and Vallo di Diano National Parks, which continues to be affected as wildfire spreads every year all the way down to the beaches, a favourite tourist destination in summers. In 2009, 131 fires broke out in the park, burning down 835 hectares of protected areas.

2001-2009

WILDFIRES IN PROTECTED AREAS

YEAR	NUMBER	SURFACE AREA AFFECTED BY FIRE (HA)			
		WOODED	NON-WOODED	TOTAL	AVERAGE
2001	422	1,850	2,141	3,991	9.4
2003	1,210	4,291	4,283	8,574	7.1
2004	789	1,825	2,210	4,035	5.1
2005	692	2,329	2,563	4,892	7.1
2006	681	1,957	3,703	5,660	8.3
2007	1,528	32,947	27,647	60,594	39.7
2008	747	4,953	3,396	8,349	11.2
2009	498	3,183	2,544	5,727	11.5

REGION	NUMBER	AREA AFFECTED BY FIRE (HA)		
		WOODED	NON-WOODED	TOTAL
PIEDMONT	9	57.7	29.2	86.9
LOMBARDY	6	3.3	0.0	3.3
VENETO	7	0.2	1.9	2.1
LIGURIA	10	33.1	5.0	38.1
EMILIA ROMAGNA	10	1.8	0.1	1.9
TUSCANY	31	166.2	96.1	262.3
UMBRIA	5	0.7	0.3	1.0
MARCHE	3	1.1	0.0	1.1
LAZIO	52	228.4	54.9	283.3
ABRUZZO	3	3.6	1.6	5.2
MOLISE	0	0.0	0.0	0.0
CAMPANIA	266	1,886.7	311.6	2,198.3
APULIA	67	768.1	2,023.9	2,792.0
BASILICATA	10	13.2	15.4	28.6
CALABRIA	19	19.3	3.7	23.0
TOTAL	498	3,183.4	2,543.7	5,727.1

WILDFIRE IN PROTECTED AREAS
BY TYPE OF AREA AND BY REGION

PROTECTED AREA	N	AREA AFFECTED BY FIRE (HA)	
		WOODED	NON-WOODED
ABRUZZO			
"MAIELLA" NATIONAL PARK	1	0.02	1.61
"SIRENTE VELINO" REGIONAL PARK	1	0.34	0.03
"PUNTA ADERCI" NATURAL RESERVE	1	3.20	0.00
BASILICATA			
"GALLIPOLI COGNATO - PICCOLE DOLOMITI LUCANE" NATURAL PARK	1	0.06	0.00
"POLLINO" NATIONAL PARK	9	13.18	15.44
CALABRIA			
"ASPROMONTE" NATIONAL PARK	2	1.85	0.00
"SILA" NATIONAL PARK	17	17.46	3.71
CAMPANIA			
"MONTE CESIMA" RANGE	2	25.93	0.00
"CILENTO AND VALLO DI DIANO" NATIONAL PARK	131	385.54	254.04
"VESUVIO" NATIONAL PARK	35	114.63	21.40
"MATESE" REGIONAL PARK	1	0.10	0.00
"PARTENIO" REGIONAL PARK	43	400.92	17.65
"TABURNO - CAMPOSAURO" REGIONAL PARK	13	54.82	11.61
"MONTI PICENTINI" REGIONAL PARK	35	860.23	4.68
"MONTI LATTARI" REGIONAL PARK	2	35.75	0.00
"FOCE SELE - TANAGRO" NATURAL RESERVE	1	0.17	0.00
"LAGO FALCIANO" NATURAL RESERVE	1	1.41	0.00
"VALLE DELLE FERRIERE" NATURAL RESERVE	2	7.37	2.17
EMILIA ROMAGNA			
"GESSI BOLOGNESI AND CALANCI DELLA ABBADESSA" REGIONAL PARK	1	0.19	0.00
"PO DELTA (ER)" REGIONAL PARK	4	1.39	0.06
"RAVENNA PINEWOOD" NATURAL RESERVE	5	0.20	0.00
LAZIO			
"CAMPO SORIANO" NATURAL MONUMENT	1	65.25	9.07
"TEMPIO DI GIOVE ANXUR" NATURAL MONUMENT	1	6.82	0.00
"MONTI AURUNCI" NATURAL PARK	15	130.85	0.00
"COMPLESSO LACUALE BRACCIANO - MARTIGNANO" REGIONAL NATURAL PARK	3	2.44	1.92
"APPENNINO - MONTI SIMBRUINI" REGIONAL NATURAL PARK	2	3.14	0.00
"CIRCEO" REGIONAL PARK	1	0.07	0.00
"CASTELLI ROMANI" REGIONAL PARK	7	7.43	13.05
"URBANO PINETO" REGIONAL PARK	1	2.10	11.70

PROTECTED AREA	N	AREA AFFECTED BY FIRE (HA)	
		WOODED	NON-WOODED
"CANTERNO LAKE" NATURAL RESERVE	1	0.07	0.00
"MARCIGLIANA" NATURAL RESERVE	1	3.76	7.33
"TENUTA DEI MASSIMI" NATURAL RESERVE	1	0.12	0.92
"DECIMA MALAFEDE" NATURAL RESERVE	1	2.61	5.01
"MONTE MARIO" NATURAL RESERVE	1	0.04	0.00
"NAZZANO, TEVERE - FARFA" NATURAL RESERVE	2	0.67	0.48
"LITORALE ROMANO" NATURAL RESERVE	14	3.05	5.44
LIGURIA			
"ANTOLA REGIONAL" NATURAL PARK	1	0.00	3.10
"MONTEMARCELLO - MAGRA" REGIONAL NATURAL PARK	5	25.68	0.38
"PORTOFINO" REGIONAL NATURAL PARK	1	0.04	0.00
"CINQUE TERRE" NATIONAL PARK	3	7.35	1.50
LOMBARDY			
"LOMBARDO DELLA VALLE DEL TICINO" PARK	3	0.62	0.00
"ADAMELLO" NATURAL PARK	2	1.33	0.00
"APPIANO GENTILE AND TRADATE PINWOOD" NATURAL PARK	1	1.36	0.00
MARCHE			
"MONTE SAN BARTOLO" REGIONAL NATURAL PARK	1	0.93	0.00
"MONTI SIBILLINI" NATIONAL PARK	1	0.01	0.00
"CONERO" REGIONAL PARK	1	0.14	0.04
PIEDMONT			
"VALLE DEL TICINO" NATURAL PARK	1	0.34	0.00
"VAL GRANDE" NATIONAL PARK	1	0.00	0.03
"ORIENTATA DELLE BARAGGE" NATURAL RESERVE	7	57.31	29.14
APULIA			
"LOCALITÀ LAMA BALICE" NATURAL PARK	2	0.46	2.72
"GARGANO" NATIONAL PARK	10	26.83	63.16
"ALTA MURGLIA" NATIONAL PARK	27	632.50	1,913.88
"OFANTO RIVER" REGIONAL PARK	1	27.51	0.00
"TERRA DELLE GRAVINE" REGIONAL PARK	25	80.22	40.53
"ORIENTATA LITORALE TARANTINO ORIENTALE" REGIONAL NATURAL RESERVE	2	0.60	3.63
TUSCANY			
"STERPAIA" LOCAL INTEREST PROTECTED NATURAL AREA	1	1.53	0.00
"PORTA LAKE" LOCAL INTEREST PROTECTED NATURAL AREA	2	0.61	0.42
"INTERPROVINCIALE MONTIONI (GR)" PARK	1	0.72	0.16
"MIGLIARINO, SAN ROSSORE AND MASSACIUCCOLI" NATURAL PARK	12	21.13	3.67

PROTECTED AREA	N	AREA AFFECTED BY FIRE (HA)	
		WOODED	NON-WOODED
"ALPI APUANE" REGIONAL NATURAL PARK	6	0.97	91.84
"TUSCANY ARCHIPELAGO" NATIONAL PARK	4	1.18	0.00
"MONTEFALCONE" NATURAL RESERVE	1	140.00	0.00
"TOMBOLO DI CECINA" NATURAL RESERVE	4	0.06	0.01
UMBRIA			
"MONTE CUCCO" PARK	4	0.35	0.26
"NERA" RIVER PARK	1	0.35	0.08
VENETO			
"LESSINIA" REGIONAL NATURAL PARK	1	0.00	0.96
"COLLI EUGANEI" REGIONAL PARK	6	0.20	0.90

THE RECURRENCE OF FIRE

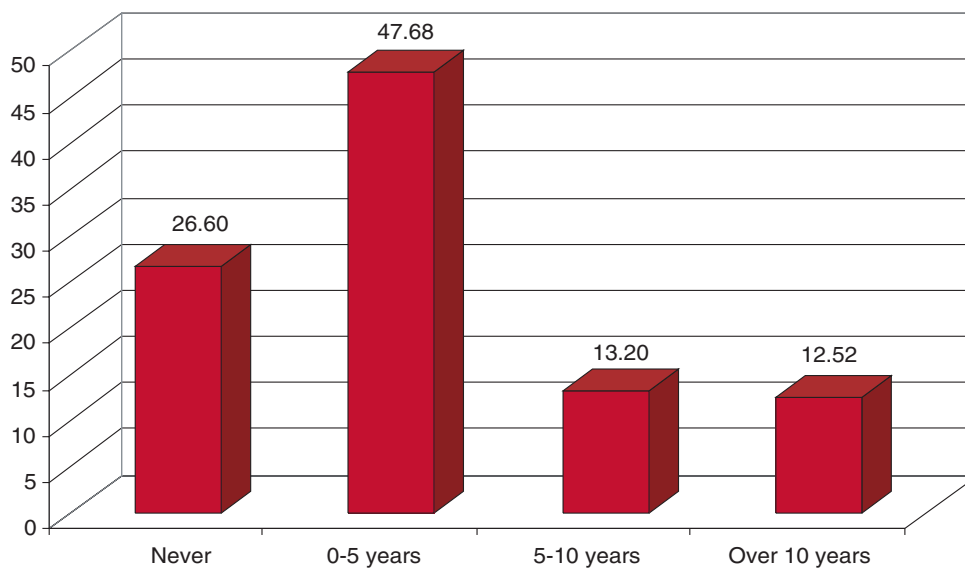
Fire often returns to the same territories not only because areas that have already been impacted by fire have been weakened but also because the external conditions that had caused the fire in the first place continue to persist. The interim before a fire returns varies but for statistical purposes the lapse of time taken into consideration is five years.

In 2009, nearly 48% of fires occurred in areas that had already been struck by fire within the past five years, 13% in those that had been hit in the past 5-10 years, 12% in those where fires had broken out in the past 10 or more years, while 26.6% of fires occurred in areas that had never been affected by fire before. In 2008, 41% of the fires impacted areas where fires had occurred in the past five years, over 15% where fires had occurred in the past 5-10 years and nearly 29% in area where fires had never occurred before.

WILDFIRE BY RECURRENCE

RECURRENCE	PERCENTAGE	
	2009	2008
Never	26.60	28.84
0-5 years	47.68	40.67
5-10 yaers	13.20	15.39
Over 10 years	12.52	15.10
TOTAL	100	100

NUMBER OF FIRES BY RECURRENCE (%)



THE STARTING POINT OF A WILDFIRE

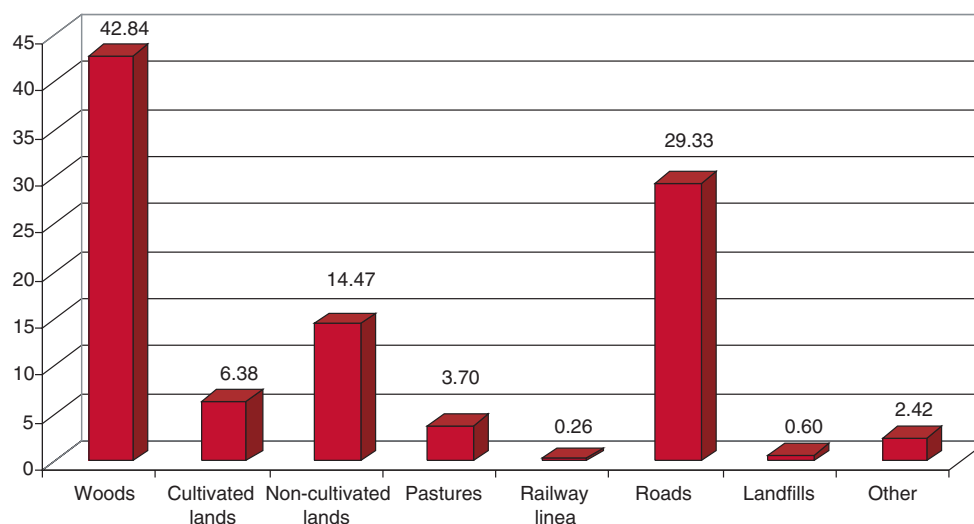
The starting point of a fire may provide useful information to understand the cause and motivation of the fire itself. The actual spot where the fire broke out may be identified by retracing the dynamics of the fire by applying the “Method of Physical Evidence,” a process that allows for the backward reconstruction of the fire’s progression through the study of the traces left on the vegetation and the environment.

The area and place where a fire was started are distinguished. The area where the fire starts is intended as the broader extension which includes the actual place where the fire was first ignited. It may be a ditch, a roadside, an uncultivated land or a place within a forest.

The identification of the place where the fire started is not only useful information in statistical terms but also a key element for investigative purposes.

In 2009, 42.84% of fires started in forested areas, meaning that they were, most likely, started with malicious intent. 29.33% of fires started by carriageways; 14.47% in uncultivated lands (probably as a consequence of land clearing activities or following burning activities aimed at creating fresh grazing grounds); 6.38% in farms, following similar land clearing activities. Only 3.7% of fires started in pastures. The percentage of fires that started in landfills or along railway lines was negligible.

NUMBER OF FIRES BY STARTING POINT (%)



THE CAUSES

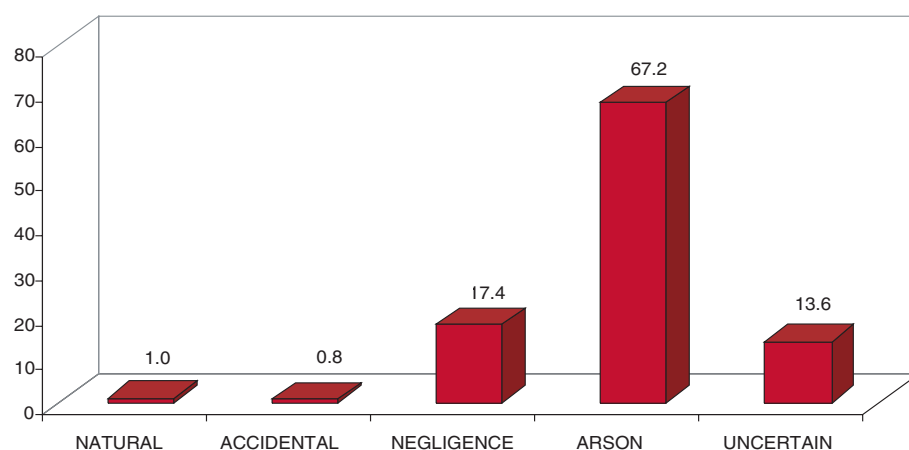
The attribution of the causes of fire is a key factor. Such attribution is the final outcome of a series of on-the-spot activities – reconnoitring, data collecting, reporting and cross-checking activities – whose results are then processed. Knowledge of the cause and, in particular, the motivation within the cause, may contribute to define the profile of the arsonist and to delimit the area of investigation. Studies carried out by the CFS have led to the reclassification of the causes and thus to comply with European wildfire modelling and data collecting standards. This action is aimed at setting up an operative pattern which personnel on the ground can rely on for their investigation to pinpoint as accurately as possible the causes of the fire.

In 2009, 67.2% of fires were caused by arson, 17.4% by negligence, while the percentage of natural and accidental fires was negligible (1% and 0.8% respectively). The causes of 521 events, corresponding to 13.6%, continue to be uncertain.

NUMBER OF FIRES AND PERCENTAGES		BY CAUSE
CAUSE	NUMBER OF FIRES	PERCENTAGE
NATURAL	37	1.0
ACCIDENTAL	33	0.8
NEGLIGENCE	669	17.4
ARSON	2,582	67.2
UNCERTAIN	521	13.6
TOTAL	3,842*	100.0

* Number of fires in those regions where CFS carries out in-depth investigation.

PERCENTAGE BY CAUSE



With respect to 2008, arson attacks rose slightly to 65.2%, while those caused by negligence amounted to 17.4%, down from 22.2%. The other categories were substantially unchanged.

In realty, the percentage of fires whose causes are uncertain rose slightly in 2008.

PERCENTAGE AND NUMBER OF FIRES BY CAUSE						
YEAR	NATURAL	ACCIDENTAL	NEGLIGENT	ARSON	UNCERTAIN	TOTAL
1998	1.0	0.6	12.6	50.7	35.1	100
1999	0.6	0.2	11.2	48.9	39.1	100
2000	0.9	0.5	11.8	57.7	29.1	100
2001	1.1	0.5	34.4	60.0	4.0	100
2002	0.7	0.0	17.7	59.2	22.4	100
2003	2.7	0.7	14.2	61.5	20.9	100
2004	1.0	0.6	13.3	61.7	23.4	100
2005	0.6	0.9	19.6	64.5	14.4	100
2006	3.1	0.6	15.2	59.9	21.2	100
2007	0.6	0.7	13.4	65.5	19.8	100
2008	0.7	0.9	22.2	65.2	11.0	100
2009	1.0	0.8	17.4	67.2	13.6	100

The regions where most arson attacks occurred was Calabria (81.9% of the regional total, corresponding to 586 fires), Lazio (76.3% of the regional total, corresponding to 248 fires), Campania (73.5% of the regional total, corresponding to 664 fires). An arson rate of above 70% was also recorded in Liguria and Basilicata.

The number of fires caused by negligence was highest in Tuscany (146), corresponding to 26.6% of all fires in the region, and in Apulia (112), corresponding to 40.4% of the total in the region.

Natural fires, caused mainly by lightening, occurred predominantly in Liguria (10), while accidental fires occurred mostly in Tuscany (10).

NUMBER AND PERCENTAGE

FIRES BY CAUSE AND REGION

REGION	NATURAL		ACCIDENTAL		NEGLIGENT		ARSON		UNCERTAIN		TOTAL	
	N.	%	N.	%	N.	%	N.	%	N.	%	N.	%
PIEDMONT	3	2.6	3	2.6	29	24.8	50	42.7	32	27.3	117	100
LOMBARDY	4	2.9	4	2.9	38	27.5	82	59.4	10	7.3	138	100
VENETO	0	0	1	1	32	32.3	42	42.4	24	24.3	99	100
LIGURIA	10	3	2	0.6	63	19	239	72	18	5.4	332	100
EMILIA ROMAGNA	1	1.2	2	2.3	42	48.9	18	20.9	23	26.7	86	100
TUSCANY	8	1.5	10	1.8	146	26.6	352	64.1	33	6	549	100
UMBRIA	4	7.1	1	1.8	10	17.9	29	51.8	12	21.4	56	100
MARCHE	0	0	2	10.5	6	31.6	6	31.6	5	26.3	19	100
LAZIO	2	0.6	3	0.9	25	7.7	248	76.3	47	14.5	325	100
ABRUZZO	1	2.9	0	0	8	23.5	10	29.5	15	44.1	34	100
MOLISE	0	0	0	0	10	20.4	14	28.6	25	51.0	49	100
CAMPANIA	0	0	2	0.2	69	7.7	664	73.5	168	18.6	903	100
APULIA	0	0	1	0.4	112	40.4	141	50.9	23	8.3	277	100
BASILICATA	3	2.1	1	0.7	19	13.4	101	71.1	18	12.7	142	100
CALABRIA	1	0.1	1	0.1	60	8.4	586	81.9	68	9.5	716	100
TOTAL	37	1	33	0.8	669	17.4	2,582	67.2	521	13.6	3,842	100

Intentional and the deliberate starting of a wildfire can be aggregated into four groups:

- pursuit of profit (opening up or renewal of grazing ground, clearing up of an area for agricultural purposes, land development speculation, interests in fire-extinguishing activities, poaching, gathering of spontaneous produce, organised crime);
- protest and resentment (revenge and/or conflict between the private sector and individuals or protest against local institutions, social or political dissent);
- behavioural disorders and pyromania;
- arson attacks for unspecified or uncertain reasons.

The motivation behind most arson attacks are uncertain considering the extreme difficulty in attributing a specific motivation even when elements clearly indicate the malicious intent of the fire. Cases of arson for which it has not been possible to determine a motivation amounted to 1,614, corresponding to 62.5%. But among those where a motive was discovered, pursuit of profit amounted to 25.1%, while behavioural disorder and pyromania amounted to 6.8% and protest and resentment to 5.6%. Therefore, it is the pursuit of profit that drives individuals to deliberately and maliciously start a fire.

NUMBER AND PERCENTAGE

ARSON BY MOTIVATION

REGION	PURSUIT OF PROFIT		PROTEST AND RESENTMENT		BEHAVIOURAL DISORDERS AND PYROMANIA		UNCERTAIN		TOTAL	
	NUMBER	%	NUMBER	%	NUMBER	%	NUMBER	%	NUMBER	%
PIEDMONT	11	22.0	2	4.0	0	0.0	37	74.0	50	100
LOMBARDY	7	8.5	4	4.9	3	3.7	68	82.9	82	100
VENETO	0	0.0	2	4.7	0	0.0	40	95.2	42	100
LIGURIA	55	23.0	15	6.3	5	2.1	164	68.6	239	100
EMILIA ROMAGNA	3	16.7	1	5.5	0	0.0	14	77.8	18	100
TUSCANY	29	8.2	26	7.4	9	2.6	288	81.8	352	100
UMBRIA	2	6.9	1	3.4	1	3.5	25	86.2	29	100
MARCHE	0	0.0	0	0.0	0	0.0	6	100.0	6	100
LAZIO	134	54.0	10	4.0	8	3.3	96	38.7	248	100
ABRUZZO	1	10.0	0	0.0	0	0.0	9	90.0	10	100
MOLISE	0	0.0	0	0.0	0	0.0	14	100.0	14	100
CAMPANIA	121	18.2	13	2.0	9	1.4	521	78.4	664	100
APULIA	33	23.4	12	8.5	7	5.0	89	63.1	141	100
BASILICATA	13	12.9	2	2.0	2	2.0	84	83.1	101	100
CALABRIA	240	41.0	57	9.7	130	22.2	159	27.1	586	100
TOTAL	649	25.1	145	5.6	174	6.8	1.614	62.5	2,582	100

As for fires caused by negligence, the causes can be aggregated into four groups:

- fires caused by cigarette stubs and matches dropped in specific areas (in rural areas, in forested areas, along roadsides and railway lines);
- fires caused as a consequence of agricultural and forest-related activities (clearing of fallow and slopes, burning of stubble and pruning of residues);
- fires caused by tourism-related activities, by malfunctioning long-distance power lines, by the burning of illegal landfills;
- uncertain causes.

NUMBER AND PERCENTAGE

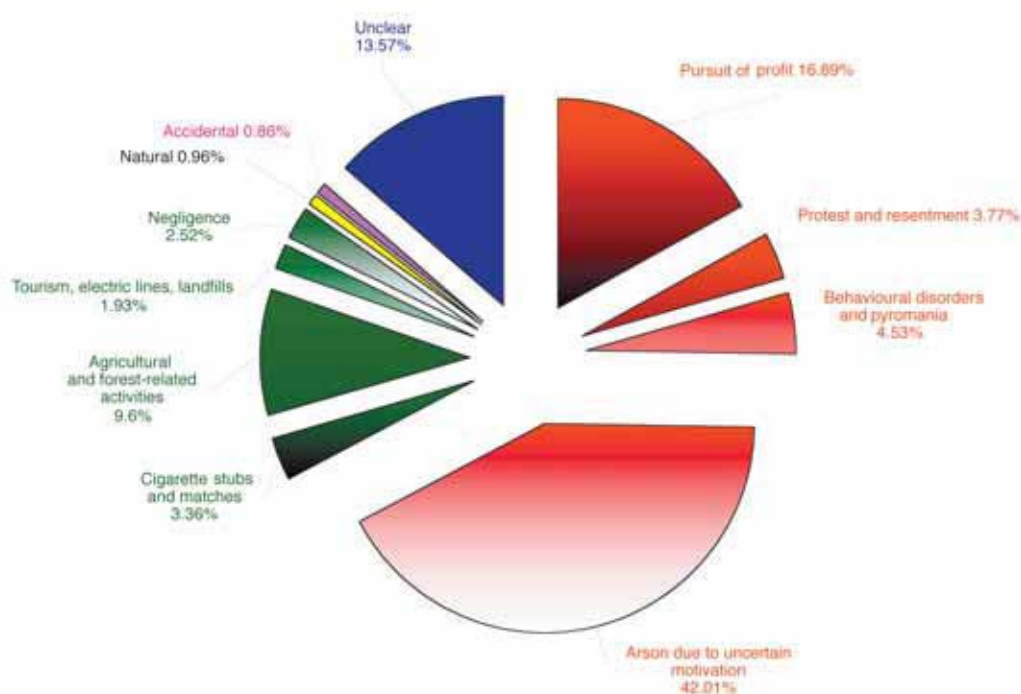
NEGLIGENT FIRES BY CAUSE

REGION	CIGARETTE STUBS AND MATCHES		AGRICULTURAL AND FOREST-RELATED ACTIVITIES		OTHER (TOURISM, LANDFILLS, ELECTRIC LINES, ETC.)		UNCERTAIN		TOTAL	
	NUMBER	%	NUMBER	%	NUMBER	%	NUMBER	%	NUMBER	%
PIEDMONT	3	10.3	16	55.2	5	17.2	5	17.3	29	100
LOMBARDY	2	5.3	25	65.8	3	7.9	8	21.0	38	100
VENETO	0	0.0	24	75.0	1	3.1	7	21.9	32	100
LIGURIA	7	11.1	40	63.5	6	9.5	10	15.9	63	100
EMILIA ROMAGNA	6	14.3	21	50.0	4	9.5	11	26.2	42	100
TUSCANY	25	17.1	79	54.1	23	15.8	19	13.0	146	100
UMBRIA	2	20.0	3	30.0	1	10.0	4	40.0	10	100
MARCHE	2	33.4	2	33.3	2	33.3	0	0.0	6	100
LAZIO	5	20.0	16	64.0	2	8.0	2	8.0	25	100
ABRUZZO	1	12.5	6	75.0	0	0.0	1	12.5	8	100
MOLISE	4	40.0	4	40.0	0	0.0	2	20.0	10	100
CAMPANIA	18	26.1	39	56.5	4	5.8	8	11.6	69	100
APULIA	28	25.0	54	48.2	13	11.6	17	15.2	112	100
BASILICATA	2	10.5	10	52.6	4	21.1	3	15.8	19	100
CALABRIA	24	40.0	30	50.0	6	10.0	0	0.0	60	100
TOTAL	129	19.3	369	55.2	74	11.0	97	14.5	669	100

It has emerged from close investigation that most negligent fires were caused by farming- and forest-related activities; these make up 55.2% of all negligent fires and occurred principally in Tuscany and Apulia. Fires caused by cigarette stubs and matches thrown in specific places amounted to 19.3%, while those caused in connection with tourist-related activities and with electrical lines and landfill burnings amounted to 11.0%.

Even in this category of fires, in 18% of the cases it has not been possible to define a specific motive.

CAUSES BY MOTIVATION



NON-WOODLAND FIRES

Fires are categorised as either “wooded” or “non-wooded” as set down in Framework Law n. 353/2000. The following is established in article 2: Intended as forest fire: *“is a fire that is susceptible to expand into a forested areas, in shrub land or forests, including human structures and infrastructure within such areas, or in cultivated land or fallow adjacent to said areas”*.

It ensues that a fire may be classified as a forest fire, and thus be included in the statistics pertaining to forest fires, even if it has not affected a forested area but only when a forest has been threatened by a fire, that is however extinguished prior to its arrival. The Cadastral of Burned areas, drawn up by Municipalities as part of the obligations defined by the Framework Law, include burned wooded areas and grazing grounds that are destroyed by fires that have been defined as wildfire.

Non-woodland fires, on the other hand, though they do not fall within the definition given above, may imply a crime, put public safety at risk, cause damage to property due to the destruction of agricultural produce or farming equipment and infrastructure, commit the rapid response forces and fire fighting systems, create confusion and panic if they break out in a wildland-urban interface, and, in any case, harm the territory and its resources.

Non-woodland fires are therefore not included in the statistics pertaining to forest fires but are reported separately by the CFS, which has drawn up, along the lines of the territorial filing procedures, a specific data bank containing the distinguishing traits, including the type of land use, for each non-forest fire.

In 2009, there were 3,937 non-woodland fires, up from 1,769 recorded in the previous year but significantly lower than in 2007 when over 7,000 fires were recorded.

Non-woodland fires correspond to 42% of all fires. These fires burned a land area of 9,905 hectares, sub-divided in the following way: 1,761 hectares of fallow; 1,126 hectares of fruit orchards; 717 hectares of agricultural and sowing land; 599 hectares of pastures; nine hectares of firewood arboriculture: and only one hectare of parklands near urban areas. 1,810 non-forest fires occurred mostly in Sardinia, which was also the worst-hit Region in terms of burned land area (3,543 hectares). Damage was also relevant in Sicily, where 405 non-woodland fires burned 2,145 hectares and in Apulia where 289 non-woodland fires destroyed 1,850 hectares. Molise, too, was significantly hit, with 285 non-woodland fires.

Sowing and agricultural lands were the most affected by non-woodland fires in 2009, unlike the previous year when the worst hit were agricultural and arable land.

NON-FOREST FIRES

REGION	NUMBER	FIRE-AFFECTED AREAS BY TYPE (HA)							TOTAL	AVERAGE
		CULTIVATED LAND	SETTLEMENTS IN RURAL AREAS	FRUIT ORCHARDS	FOREST PLANTATION	PASTURE	FALLOW			
PIEDMONT	7	0	0	0	0	0	1	1	0.1	
AOSTA VALLEY	2	NA	NA	NA	NA	NA	NA	4	2.0	
LOMBARDY	11	0	0	0	0	14	5	19	1.8	
TRENTINO A.A.	8	NA	NA	NA	NA	NA	NA	1	0.1	
VENETO	18	0	0	1	0	0	7	8	0.4	
FRIULI V.G.	NA	NA	NA	NA	NA	NA	NA	NA	-	
LIGURIA	116	22	0	6	0	35	26	89	0.8	
EMILIA ROMAGNA	4	0	0	0	0	0	1	1	0.3	
TUSCANY	136	23	0	6	0	0	25	54	0.4	
UMBRIA	23	7	0	1	0	0	5	13	0.5	
MARCHE	9	1	0	0	0	0	5	6	0.7	
LAZIO	136	106	0	29	7	96	156	394	2.9	
ABRUZZO	67	15	0	2	1	125	80	223	3.3	
MOLISE	285	141	0	8	0	0	100	249	0.9	
CAMPANIA	267	114	1	29	0	32	218	394	1.5	
APULIA	289	123	0	1,030	0	205	492	1,850	6.4	
BASILICATA	72	47	0	8	0	37	203	295	4.1	
CALABRIA	272	118	0	6	1	55	437	617	2.3	
SICILY	405	NA	NA	NA	NA	NA	NA	2,144	5.3	
SARDINIA	1,810	NA	NA	NA	NA	NA	NA	3,543	2.0	
TOTAL	3,937	717	1	1,126	9	599	1,761	9,905**	2.2	

* NA: Not Available.

** The sum of the totals does not correspond to the overall total inasmuch as Sardinia is not disaggregated by type of land.

WILDFIRES AND SAFETY

In 2009, fire once again took its victims: four deaths and 12 people injured. The number of those injured is almost certainly inferior to the actual number of people injured, considering that only officially reported cases were taken into account.

There were victims in Veneto, Tuscany and Sardinia. In the municipality of Lamon, in Belluno province, a person died in a fire started during land clearing activities. The wildfire was extinguished within four hours.

The victim in Tuscany died March 18 in the Municipality of Cutigliano in Pistoia Province following a land clearing fire at a farm. The fire was extinguished after two hours and affected a small area.

Two more people lost their lives in Sardinia following the disastrous events that occurred on 23 July. One of them died in the outskirts of Pozzomaggiore, in Sassari province. He was trying to save his sheep when the fire hit him in the full. The other person died of a heart attack as he tried to run from the flames that had struck his vineyard in the countryside near Mores also in the province of Sassari. Dozens were intoxicated by the smoke.

In 2008 there were four victims and 24 people injured. It continues to be an unacceptable toll, which once again highlights the widespread underestimation of the risks connected with fires. Both of the victims and those injured were, in most cases, people who were trying to clear their land through burning or to save their property.

Notwithstanding the experience and the attention paid to safety and prevention, fire fighting operators, too, are often hit by fire as a consequence of the unpredictability of the conditions and underestimation of the risk involved.

1978-2009

VICTIMS OF FIRE

YEAR	INJURED	DEATHS
1978	47	3
1979	32	10
1980	31	4
1981	40	9
1982	27	6
1983	39	15
1984	19	6
1985	93	16
1986	38	9
1987	104	3
1988	80	6
1989	80	12
1990	119	10
1991	55	6
1992	50	6
1993	76	12
1994	37	1
1995	12	1
1996	14	2
1997	97	5
1998	81	6
1999	34	6
2000	70	2
2001	23	3
2002	37	5
2003	75	7
2004	35	2
2005	43	3
2006	17	1
2007	26	23
2008	30	4
2009	12	4
TOTAL	1,573	208

2009

INJURED BY REGION

REGION	MUNICIPALITY	DATE OF FIRE	INJURED
CAMPANIA	CASTEL MORRONE (CE)	20/08/2009	1
	CENTOLA (SA)	07/09/2009	1
TOTAL			2
EMILIA ROMAGNA	MARANO SUL PANARO (MO)	23/03/2009	1
	TOTAL		
LIGURIA	AMEGLIA (SP)	09/09/2009	1
	TOTAL		
APULIA	CISTERNINO (BR)	15/06/2009	1
	SAN PAOLO DI CIVITATE (FG)	09/06/2009	1
TOTAL			2
TUSCANY	BAGNI DI LUCCA (LU)	11/03/2009	1
	BARGA (LU)	23/03/2009	1
	CALCI (PI)	08/09/2009	1
	FIESOLE (FI)	11/08/2009	1
	LUCCA	12/08/2009	2
TOTAL			6
NATIONAL TOTAL			12

THE OPERATIVE CENTRE AND THE “1515” HELPLINE

The coordination of fire-fighting activities of the CFS is carried out at the National Operative Centre set up at the main headquarters (*Ispettorato Generale*) in Rome, and at the 15 regional operative units that are active in all ordinary statute regions.

The activity of the Operative centres depends on the “1515,” a telephone helpline that since it was set up in 1997 acts a key tool for the reporting of fires and other environmental emergencies. “1515” is a direct line between citizens and the CFS and is utilised also to report events or behaviour that can potentially threaten environmental safety. The “1515” helpline also receives reports of other types as well as requests for help and information.

The numerous calls received by the helpline in 2009 are an indication of citizens’ environmental concern and awareness. “1515” received 83,123, out of which 24,410 (nearly 30%) were to report fires. In 2008, 59,469 calls were received, out of which 22,302 (37.5%) to report fires.

2009 CALLS RECEIVED BY 1515					
REGION	WILDFIRES	ENVIRONMENTAL PROTECTION	CIVIL PROTECTION PUBLIC HELP	VARIOUS	TOTAL
PIEDMONT	184	120	445	1,413	2,162
LOMBARDY	130	129	15	317	591
VENETO	157	208	33	2,592	2,990
LIGURIA	1,508	126	67	2,801	4,502
EMILIA ROM.	37	65	21	535	658
TUSCANY	337	452	84	1,471	2,344
UMBRIA	502	223	60	5,109	5,894
MARCHE	36	248	22	1,383	1,689
LAZIO	11,809	12,385	257	17,459	41,910
ABRUZZO	71	199	28	631	929
MOLISE	221	59	6	936	1,222
CAMPANIA	3,765	1,111	24	2,511	7,411
APULIA	2,645	1,090	124	3,000	6,859
BASILICATA	535	69	20	186	810
CALABRIA	2,473	305	89	285	3,152
TOTAL	24,410	16,789	1,295	40,629	83,123

AIR SUPPORT IN THE FIGHT AGAINST WILDFIRES

The state aircraft fleet utilised for fire fighting activities is coordinated by the Civil Protection Department through the unified permanent operative centre (Centro Operativo Unificato Permanente – COAU). The fleet of aircraft are made available by government departments and handling companies for the different operations that contribute to civil protection.

The aircraft are located at several bases so as to respond to winter and summer emergencies. For the winter campaign – from 19 February to 30 April – the available fleet includes 20 aircrafts, including 10 CANADAIRS and 2 ERICKSON S 64s, spread in 14 bases. While for the summer campaign – from 15 June to 30 September – saw the involvement of 39 aircrafts, 2 more with respect to 2008. The fleet, which includes 14 CANADAIRS and 4 ERICKSON S 64s, are distributed at 20 bases. In view of the good results achieved in the previous years, eight AIR TRACTOR - FIRE BOSS were also utilised.

WINTER PERIOD (19/2-30/4)	LOCATION OF FIRE FIGHTING AIRCRAFT IN 2009
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PLACE	AIRCRAFT TYPE	NUMBER OF AIRCRAFTS	ISTITUTION
BIELLA	CANADAIR CL 415	2	CIVIL PROTECTION DEPARTMENT
BELLUNO	AB 412	1	THE ITALIAN FOREST CORPS
BOLZANO/VENARIA	AB 205	1	THE ARMY
BRESCIA	CANADAIR CL 415	2	CIVIL PROTECTION DEPARTMENT
CAIOLO (SO)	S 64	1	CIVIL PROTECTION DEPARTMENT
TURIN	AB 412	1	NATIONAL CORPS FIRE BRIGADES
ALBENGA (SV)	S 64	1	THE ITALIAN FOREST CORPS
GENOA	CANADAIR CL 415	2	CIVIL PROTECTION DEPARTMENT
CECINA (LI)	NH 500	1	THE ITALIAN FOREST CORPS
PESCARA	AB 412	1	THE ITALIAN FOREST CORPS
VITERBO	CH 47	1	THE ARMY
ROME URBE	AB 412	1	THE ITALIAN FOREST CORPS
CIAMPINO (RM)	CANADAIR CL 415	2	CIVIL PROTECTION DEPARTMENT
LAMEZIA TERME (CZ)	NH 500	1	THE ITALIAN FOREST CORPS
	CANADAIR CL 415	2	CIVIL PROTECTION DEPARTMENT
TOTAL		20	

In 2009, 2,530 mission flights were carried out, down by more than 500 compared to the previous year. Over 5,300 flight hours took place for a total of 24,126 drops.

Air support in the fight against wildfires has been declining in recent years in view of the reduction in the number of fires since 2007. Sardinia, Calabria and Sicily were the regions that required the most air support.

The Aeromobile Operative Centre (“Centro Operativo Aeromobili – COA”) of the Italian Forest Corps also participates with its own crafts, staff and pilots, in the nationwide fire fighting initiative, providing support to the institutional activities of the Italian Forest Corps especially in the area of land monitoring.

European Union aircraft also operated in Italy in 2009 from bases in Bastia, Corsica. One CL 215 MC and 1 CL 215 SE, carried out 12 mission flights in Sardinia in the critical days of 24 and 25 July, focusing their action above all in Olbia, Pozzomaggiore (Sassari) and Bonorva (Sassari).

SUMMER PERIOD (15/6-30/9)		LOCATION OF FIRE FIGHTING AIRCRAFT IN 2009	
PLACE	AIRCRAFT TYPE	NUMBER OF AIRCRAFTS	ISTITUTION
VENICE	AB 412	1	NATIONAL CORPS FIRE BRIGADES
GENOA	CANADAIR CL 415	2	CIVIL PROTECTION DEPARTMENT
	AB 412	1	NATIONAL CORPS FIRE BRIGADES
ALBENGA (SV)	S 64	1	CIVIL PROTECTION DEPARTMENT
LUNI SARZANA (SP)	AB 412	1	CORPS OF THE PORT CAPTAINCIES - COAST GUARD
	AB 212	1	THE NAVY
CECINA (LI)	NH 500	1	THE ITALIAN FOREST CORPS
OLBIA (SS)	CANADAIR CL 415	3	CIVIL PROTECTION DEPARTMENT
ORISTANO	S 64	1	CIVIL PROTECTION DEPARTMENT
CAGLIARI-ELMAS	AB 205	1	THE ARMY
FALCONARA (AN)	FIRE BOSS	2	CIVIL PROTECTION DEPARTMENT
PESCARA	AB 412	1	THE ITALIAN FOREST CORPS
VITERBO	CH 47	1	THE ARMY
ROME URBE	AB 412	1	THE ITALIAN FOREST CORPS
CIAMPINO (RM)	CANADAIR CL 415	5	CIVIL PROTECTION DEPARTMENT
PONTECAGNANO (SA)	S 64	1	CIVIL PROTECTION DEPARTMENT
FOGGIA	FIRE BOSS	2	CIVIL PROTECTION DEPARTMENT
	FIRE BOSS	2	CIVIL PROTECTION DEPARTMENT
GROTTAGLIE (TA)	FIRE BOSS	2	CIVIL PROTECTION DEPARTMENT
	AB 212	1	THE NAVY
LAMEZIA TERME (CZ)	CANADAIR CL 415	4	CIVIL PROTECTION DEPARTMENT
	NH 500	1	THE ITALIAN FOREST CORPS
CATANIA	AB 412	1	CORPS OF THE PORT CAPTAINCIES - COAST GUARD
	AB 212	1	THE NAVY
TRAPANI	S 64	1	CIVIL PROTECTION DEPARTMENT
SIGONELLA (CT)	FIRE BOSS	2	CIVIL PROTECTION DEPARTMENT
TOTAL		39	

AIRCRAFT TYPE	MISSION	FLIGHT TIME	DROPS	LIQUID DROPPED (litres)
CANADAIR CL 415	1,437	3,406h 17m	15,976	95,856,000
CANADAIR CL 215	12	30h 42m	56	336,000
HELICOPTER S 64 ERICKSON	342	602h 06m	3,352	30,168,000
AT - 802 FIRE BOSS	575	1,034h 47m	2,900	10,150,000
HELICOPTERS NH 500 - CFS	23	42h 42m	317	158,500
HELICOPTERS AB 412 - CFS	22	52h 39m	206	164,800
HELICOPTERS AB 205 - EI	22	35h 45m	376	225,600
HELICOPTERS CH 47 - EI	35	69h 30m	296	1,864,800
HELICOPTERS AB 212 - MM	60	109h 07m	635	381,000
HELICOPTERS AB 412 - VVF	1	1h 00m	7	5,600
HELICOPTERS AB 412 - CP	1	3h 32m	5	4,000
TOTAL	2,530	5,388h 07m	24,126	139,314,300

REGION	REQUESTS	MISSION	FLIGHT TIME	DROPS	LIQUID DROPPED (litres)
AOSTA VALLEY	0	0	0h	0	0
PIEDMONT	5	12	32h 05m	113	771,000
LOMBARDY	11	21	46h 13m	324	2,337,000
TRENTINO A.A.	0	0	0h	0	0
VENETO	1	2	4h 05m	33	297,000
FRIULI V.G.	3	6	15h 45m	27	110,000
LIGURIA	67	232	538h 32m	3,244	19,962,500
EMILIA R.	2	1	3h 10m	12	72,000
TUSCANY	37	208	535h 34m	2,412	13,752,300
UMBRIA	1	1	0h 05m	0	0
MARCHE	3	13	30h 56m	89	291,400
LAZIO	88	157	354h 27m	1,574	9,047,400
ABRUZZO	10	22	47h 15m	140	550,600
MOLISE	4	8	19h 30m	57	104,400
CAMPANIA	140	414	881h 42m	3,450	21,127,600
APULIA	54	207	387h 47m	1,369	6,315,100
BASILICATA	26	88	191h 37m	827	4,559,500
CALABRIA	164	346	714h 40m	3,478	18,692,200
SICILY	160	398	801h 37m	2,911	16,379,300
SARDINIA	175	394	783h 07m	4,066	24,945,000
TOTAL	951	2,530	5,388h 07m	24,126	139,314,300

AIRCRAFT TYPE	2003		2004		2005		2006		2007		2008	
	N.	FLIGHT TIME	N.	FLIGHT TIME	N.	FLIGHT TIME	N.	FLIGHT TIME	N.	FLIGHT TIME	N.	FLIGHT TIME
HELICOPTER AB 205	-	-	1	43	1	51	1	14	1	334	41	72
HELICOPTER AB 212	3	238	3	200	3	98	2	132	2	230	67	134
HELICOPTER AB 412	3	127	5	329	5	211	3	110	3	537	106	207
HELICOPTER CH 47	2	358	1	76	1	62	1	50	1	343	55	128
CANADAIR CL 415	14	5,180	13	3,265	13	2,980	13	2,643	13	5,900	1,672	3,962
HELICOPTER NH 500	5	843	3	147	2	159	2	54	2	287	70	136
HELICOPTER S 64 E	6	1,959	4	693	5	636	6	734	6	1,928	527	884
BERIEV BE - 200	-	-	-	-	1	64	-	-	-	-	-	-

WILDFIRE INVESTIGATIVE ACTIVITIES CONDUCTED BY THE ITALIAN FOREST CORPS

PREAMBLE

Following the introduction of the framework law n. 353 of November 21, 2000, “Framework Law on Forest Fires”, introduced under Title VI of the penal code (public safety) the specific crime of causing a forest fire (art. 423-bis), the Italian Forest Corps received new powers to help in the prevention and repression of arson at both central and local levels.

Set up on August 10, 2000, at the General Inspectorate (Ispettorato Generale), the Anti-Forest Fire Investigation Unit (“Nucleo Investigativo Antincendio Boschivi – NIAB”) operates throughout the national territory, except in the special statute regions and in the autonomous provinces, and has the task of coordinating information gathering and investigation activities concerning forest fires.

NIAB provides operative, investigative and logistical support to the territorial offices of the CFS, also by conducting research into findings made at the scene of a fire for the devices and primers used to start the fire. This activity is supported by the scientific department of the state police in Rome and by the National Research Institute in Padua.

Article 423-bis of the penal code introduced as part of the framework law governing forest fires, has given new impetus to the initiatives aimed at shedding light on the motivations that lie behind a fire, and also to be in a position to know, understand and analyse the phenomenon of forest fires and to introduce effective normative tools to sustain investigation.

DATA AND RESULTS

As a result of the fight against forest fires conducted by the territorial headquarters of the CFS in 2009, 317 people were brought before the judiciary (281 for negligence and 36 for arson).

In the 2000 – 2009 period, 3,871 persons were brought before the judicial authorities for the crime of forest fire; of these, 131 were arrested in the act of committing the crime or detained in custody.

The fight against crime has been conducted by the CFS in a constant and ever more intensive manner since 2000 to the present.

Data relating to the 2000-2009 period showed that more people were charged with negligence than with arson.

2000-2009

**INVESTIGATIONS CARRIED OUT BY THE ITALIAN FOREST CORPS
IN THE AREA OF FOREST FIRES**

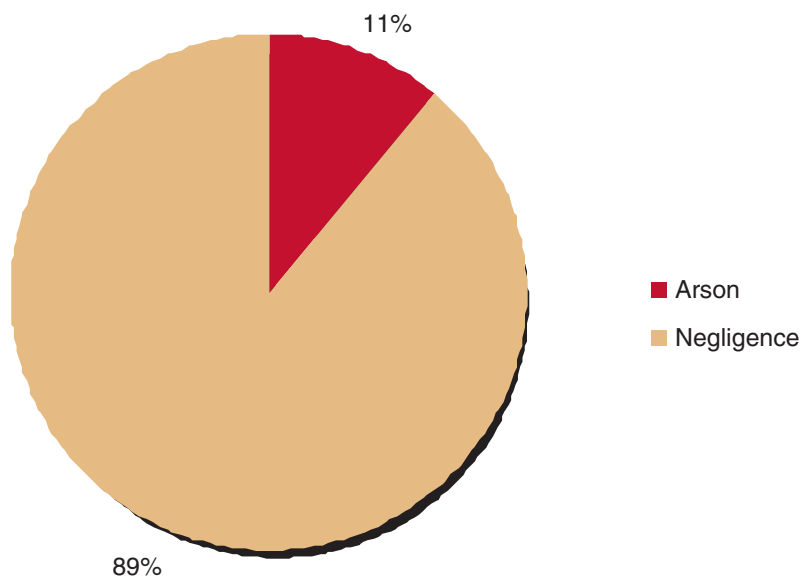
YEAR	PEOPLE CHARGED WITHOUT ARREST	PEOPLE ARRESTED OR HELD IN CUTODY	TOTAL
2000	299	9	308
2001	375	12	387
2002	313	13	326
2003	401	14	415
2004	340	22	362
2005	328	16	344
2006	342	11	353
2007	583	13	596
2008	450	13	463
2009	309	8	317
TOTAL	3,740	131	3,871

2000-2009

ARRESTS CARRIED OUT BY THE ITALIAN FOREST CORPS

REGION	PROVINCE	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	TOTAL
BASILICATA	MATERA	1		1						1		3
	POTENZA	1	1						2	1		5
CAMPANIA	BENEVENTO								1	1		2
	CASERTA						2			1		3
	NAPLES				1	1						2
	SALERNO								1			1
CALABRIA	CATANZARO							1	1		1	3
	COSENZA	1	1	2	5	10	3	2	1	4	3	32
	CROTONE	5	3				1	1	1	2		13
	REGGIO C.				1	4	6					11
	VIBO V.					1				2		3
EMILIA ROM.	PIACENZA			1				1				2
LAZIO	FROSINONE		1									1
	LATINA				1	1	2	1	4			9
	ROME		2		1	1			1			5
	VITERBO										3	3
LIGURIA	GENOA							1				1
	IMPERIA					1						1
	LA SPEZIA							1				1
	SAVONA		2		1							3
LOMBARDY	BERGAMO			4								4
PIEDMONT	ALESSANDRIA								1			1
	VERCELLI			1								1
APULIA	BARI		1							1		2
	FOGGIA			1								1
	TARANTO			2				2				4
TUSCANY	AREZZO					2						2
	GROSSETO				2							2
	LIVORNO						1					1
	LUCCA					1						1
	PISA		2									2
UMBRIA	PERUGIA	1						1			1	3
VENETO	VERONA						1					1
	VICENZA				2							2
TOTAL		9	13	12	14	22	16	11	13	13	8	131

PEOPLE BROUGHT BEFORE THE JUDICIARY AND CHARGED FOR HAVING NEGLIGENTLY OR MALICIOUSLY STARTED A FOREST FIRE IN 2009, IN PERCENTAGE (TOTAL N. 317%)

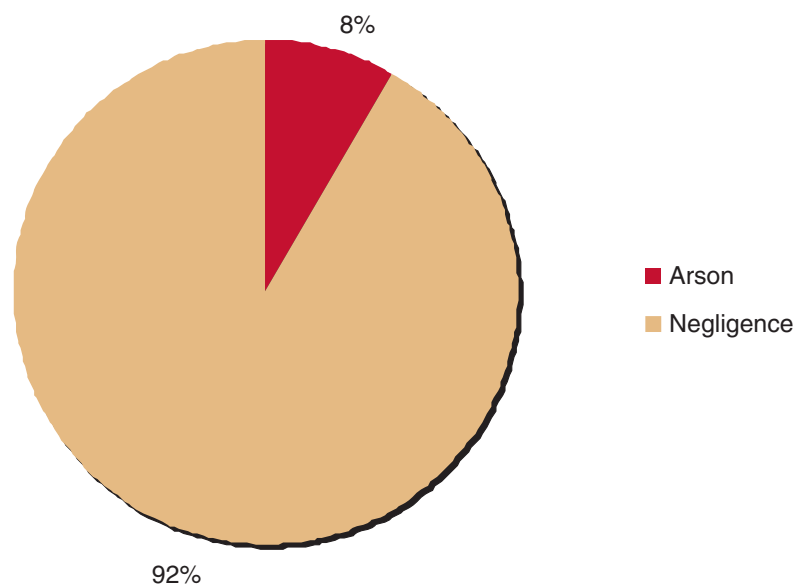


2009

PEOPLE CHARGED FOR THE CRIME OF WILDFIRE

CAUSES	NUMBER	PERCENTAGE
NEGLIGENCE	281	89
ARSON	36	11
TOTAL	317	100

PEOPLE BROUGHT BEFORE THE JUDICIARY AND CHARGED FOR HAVING NEGLIGENTLY OR MALICIOUSLY STARTED A FOREST FIRE IN THE 2000-2009 PERIOD (%)

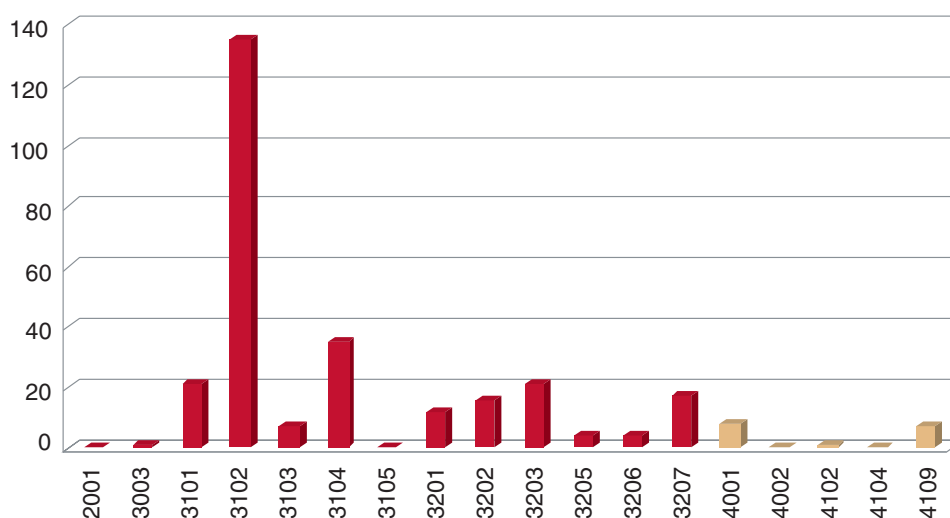


The percentage of 11% is considered very positive because arson-related investigations are much more complex and difficult, and shows that CFS staff are gaining experience and skills in this area.

As for negligent fires, the two following graphs confirm also for 2009 the most recurrent motivations shown in the 2000 – 2009 period.

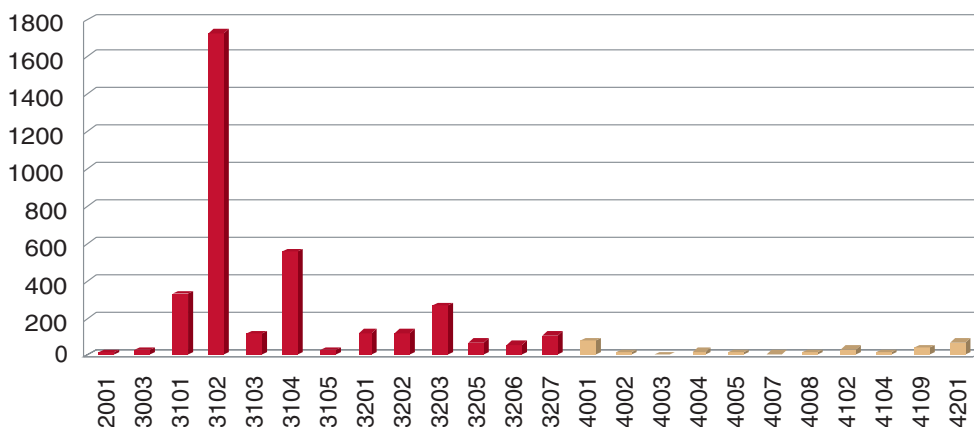
In nearly all cases of negligent fire caused by persons who were identified, were caused by the clearing of plant residue (117 fires corresponding to 37.5% of negligent fires), by the burning of stubs (34 fires corresponding to 10.8% of negligent fires), for the cleaning-up of fallow (19 fires corresponding to 6% of negligent fires), by the improper use of motor vehicles, fire welding equipment, electric and mechanical appliances in wooded or rural areas (14 fires corresponding to 4.5%).

PEOPLE BROUGHT BEFORE THE JUDICIARY AND CHARGED FOR SPECIFIC CAUSES IN 2009 (N. 317)



CAUSE CODE	MOTIVATION
NEGLIGENCE	
2001	SPARKS FROM THE FRICTION OF TRAIN WHEELS
3003	CIGARETTE STUBBS OR MATCHES
3101	WEED SUPPRESSION IN FALLOW LAND
3102	DISPOSAL OF VEGETATION RESIDUE
3103	STIMULATION OF PASTURE REVEGETATION
3104	BURNING OF PLANT STUBBLE
3105	WEED SUPPRESSION (ROAD AND RAIL EMBANKMENT)
3201	RECREATIONAL AND TOURIST ACTIVITIES
3202	FIREWORKS
3203	UTILISATION OF ELECTRICAL AND MECHANICAL EQUIPMENT OR WELDING
3205	ILLEGAL WASTE BURNING
3206	BROKEN OR COLLAPSE OF POWER LINES
3207	FIRES CAUSED BY NEGLIGENCE OF UNCERTAIN CAUSES
ARSON	
4001	STIMULATION OF PASTURE REVEGETATION
4002	PROFIT FROM LAND USE CHANGE (FROM FOREST TO AGRICULTURE)
4003	PROFIT FROM THE DESTRUCTION OF THE VEGETATION FOR HOUSING SPECULATION
4004	ILLEGAL PROFIT FOR UNDEFINED REASONS
4005	OCCUPATIONAL ISSUES
4007	HUNTING AND POACHING
4008	COLLECTION OF NON WOOD PRODUCTS FROM BURNED FOREST LAND
4102	PERSONAL CONFLICT OR REVENGE
4104	PERSONAL AMUSEMENT OR IDLENESS
4109	PSYCHOLOGICAL OR BEHAVIOURAL DISORDERS OR PYROMANIA
4201	ARSON PROVOKED BY UNCERTAIN MOTIVATIONS

PERSONS BROUGHT BEFORE THE JUDICIARY AND CHARGED FOR SPECIFIC CAUSES IN THE 2000-2009 PERIOD (TOTAL N. 3.871).



CAUSE CODE	MOTIVATION
NEGLIGENCE	
2001	SPARKS FROM THE FRICTION OF TRAIN WHEELS
3003	CIGARETTE BUTTS OR MATCHES
3101	WEED SUPPRESSION IN FALLOW LAND
3102	DISPOSAL OF VEGETATION RESIDUE
3103	STIMULATION OF PASTURE REVEGETATION
3104	BURNING OF PLANT STUBBLE
3105	WEED SUPPRESSION (ROAD AND RAIL EMBANKMENT)
3201	RECREATIONAL AND TOURIST ACTIVITIES
3202	FIREWORKS
3203	UTILISATION OF ELECTRICAL AND MECHANICAL EQUIPMENT OR WELDERS
3205	ILLEGAL WASTE BURNING
3206	BROKEN OR COLLAPSE OF POWER LINES
3207	FIRES CAUSED BY NEGLIGENCE OF UNCERTAIN CAUSES
ARSON	
4001	STIMULATION OF PASTURE REVEGETATION
4002	PROFIT FROM LAND USE CHANGE (FROM FOREST TO AGRICULTURE)
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4104	PERSONAL AMUSEMENT OR IDLENESS
4109	PSYCHOLOGICAL OR BEHAVIOURAL DISORDERS OR PYROMANIA
4201	ARSON PROVOKED BY UNCERTAIN MOTIVATIONS

Regarding arson, an analysis was conducted of the arrests made in the 2000-2009 period.

2000-2009 ARRESTS AND DETENTION OF SUSPECTS MADE BY THE ITALIAN FOREST CORPS	
N. ARRESTS	MOTIVATION
48	Connected to activities that occur in rural and mountain areas, of which: - 32 related to stock raising in order to obtain a new lease for the pasture - 16 related to the cleaning-up of the land, which when carried out in areas near forests without taking any precautionary measures by previous offenders is considered not as an unpremeditated fire but as possible arson (an event not premeditated but foreseen and continuing, accepting the event in itself and without doing anything to prevent it).
36	Connected to personal, emotional, social malaise with marked conditions of frustration and repressed aggressiveness that trigger in pyromaniacs destructive impulses accompanied by the urge to light fires and see the flames rage. It is the combination of behavioural patterns that are commonly known as "pyromania".
12	Lit by fire-fighting operators with a view to gaining direct personal advantage or to enhancing their role.
6	Arising from personal conflict in which one of the conflicting parties set the forest ablaze.
5	To depreciate the value of a forest so as to allow a third party to buy at a lower price or a successive reutilisation of the forest.
4	Gathering of produce (e.g. wild asparagus).
2	As retaliation against the activities carried out by the Italian Forest Corps as part of its fight against unauthorised building.
2	Related to poaching or hunting ground issues.
2	As a retaliation against the setting up or existence of a protected area.
2	Vandalism
4	Organised crime.
8	Still unknown motivation.
131	TOTAL ARRESTS

PROFILE OF THE ARSONIST AND THE PYROMANIAC

The investigative activities carried out by the CFS confirmed the three levels of motivations that are at the basis of this phenomenon:

- negligence often bordering on irresponsibility, with fires mostly caused by land clearing activities through burning;
- widespread illegality (fires started in connection with poaching, with the wrongdoing of fire fighting operators, extortion);
- rural criminality (shepherds connected to criminal milieus, depreciation in the value of land and forests, intimidation, illicit activities aimed at favouring successive land development and reforestation).

The motivational matrixes described above and described in the three profiles of the arsonist and pyromaniac that have been compiled by the CFS through the analysis of data collected from 2000 to the present day. An extensive report of these findings was provided in the 2007 and 2008 Handbooks.

At present, an EU co-financed study is underway – WICAP (*Wildfire Criminal Analysis Program*) – based on the analysis of statistical data relating to solved arson cases and aimed at achieving a more accurate criminal profiling of the offender.

PROFILE OF A PYROMANIAC: A NEW APPROACH IN THE UNDERSTANDING OF PYROMANIA (*)

Studies carried out by the CFS in the past decade into the factors that trigger pyromania has allowed it to identify a number of motives. The second largest group of arsonists (36 cases out of 131 arrests) involved persons who were somehow affected by social, emotional or psychological malaise.

The findings emerging from the investigations carried out up until 2006 – investigations that involved a structured interview and included epidemiologic profiles – highlighted 25 cases as having a psychopathological matrix where the arsonists were all men with the exception of two events when women were involved. In most of these cases there were analogies in their family and personal anamneses with the description of pyromania given in DSM-IV-TR (Diagnostic and Statistical Manual of Mental Disorders): family history characterised by violence and alcoholism, difficult childhoods; often the arsonist himself was a drug addict or an alcoholic with social and sexual problems, etc.

Out of these 25 cases, 11 were selected inasmuch as they could be defined as “alleged pyromaniacs”. The selection was based on psychological hypotheses arising from indirect observation, i.e. trying to “imagine” and to come into contact with the psychic dynamics of these individuals through a careful reading of the documentation relating to the investigation and the trial.

It should be observed that all data was collected indirectly, i.e. on the basis of the declarations and documents connected to the criminal investigation, and as such may just be hypothetical and not exhaustive.

Nevertheless, the reliability of these conjectures increases when considered

against the psychiatric analysis that ultimately led to the definition and classification of pyromania. It is an approach that also sheds light on the difficulties that are faced when dealing with this phenomenon.

Without going into detail of the process leading from the initial incendiary monomania to the definition of pyromania, it is important to observe that in the field of psychiatry, pyromaniac activity has been closely studied to the extent that it has come to be considered a mental disease or a simple symptomatic manifestation included among psychic disorders. Thus, there is no absolute certainty regarding the analysis of the emergence of the pathology and its development (etiopathogenesis), nor the knowledge of the events, motives and variables leading to the sickness (etiology).

As a matter of fact, this behavioural pattern has been included in the DSM-IV-TR among the disorders in the control of impulses elsewhere not classified as proof of the objective difficulty in classifying the phenomenon. In psychiatry, the principal characteristic of pyromania is the inability to resist the impulse of causing fire combined with the desire of wanting to see the flames rage. The subject does not necessarily have to present other types of disorders. It is probably because of this reason that the DSM-IV-TR considers pyromania a rare disorder, not sufficiently studied and understood. The documentation gathered by N.I.A.B. relating to arrested and/or reported alleged pyromaniacs showed that in most cases the person in question had a family and personal anamnesis made up of malaise, violence, abuse, abandonment or instability. In addition, such a person suffers or has suffered psychological disorders ranging from the less serious to presenting schizoid manifestations or fully-fledged schizophrenia. An element recurrent in all cases is the very evident presence of a past or present state of depression.

The question that arises from a closer analysis of the pyromaniac deed, mainstream psychological-psychiatric theories and the specific cases relating to persons who have been arrested or reported to the CFS is whether pyromania can be classified as a psychopathology or if it is but a symptomatic manifestation.

To give a truly reliable answer to this question, and thus provide a key and innovative contribution to the investigation, the decision was taken to utilise a psychodynamic experience-driven approach based on the objectivity of the psyche and on the fact that the 'real' is that which 'acts' (if one imagines to be Napoleon he will act like Napoleon) and, consequently, to consider that which is subjective experience as the object of study so that the same becomes objective even though subjective.

The CFS thus proposes an investigative method that starts off from the psychic organisation of the subject that has been apprehended. In this way the personal experience of the alleged pyromaniac becomes a way to understand and, therefore, to contain the phenomenon of pyromania.

For these reasons NIAB has commenced a study aimed at analysing incendiary behaviour that does not present any material evidence and that, consequently, is included in the "pyromania" class, which in turn gathers all those behavioural pat-

terns that appear to be exclusively driven by psycho-social-behavioural as well as psychiatric and psychopathological disorders.

This work is very articulate and includes a series of standard questions (with the help of a specialist) to be asked during an interview, which includes personality and projection tests, to consenting persons who have been arrested or reported for having started a wildfire allegedly driven by pyromaniac motives. This is followed by an analysis and a comment of the answers (so far two subjects have been studied with these methods).

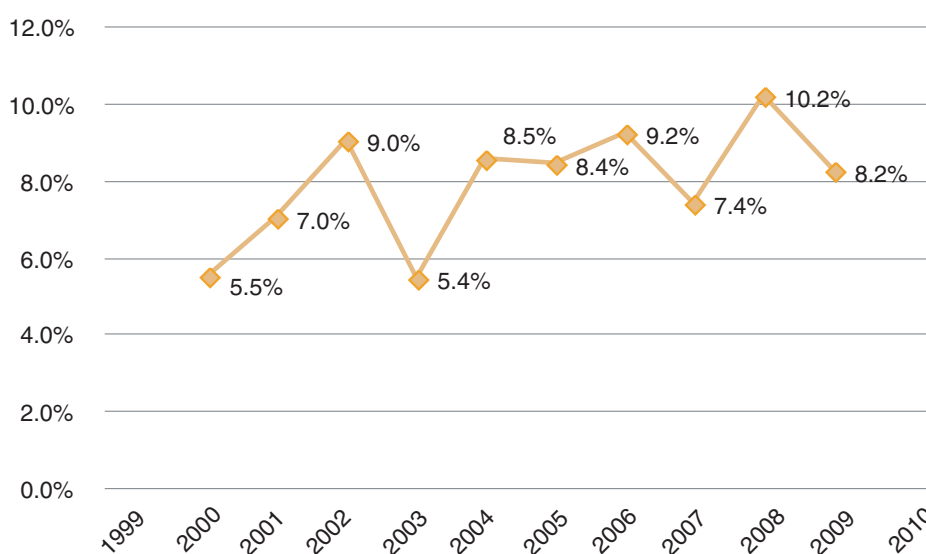
The starting point is that pyromania, not unlike other psychopathologies, may be considered as the external manifestation of psychic phenomena that, each time, expresses the specific mindset of that specific mind in that particular moment. The investigative method aims to discover psychic analogies and differences on the basis of similar and/or behavioural expressions, at verifying the existence of psychopathologies underlying the pyromaniac symptoms and, if possible, to classify them. An attempt is finally made to define personality profiles, with a view to defining personality types and traits.

(*) written by Rita Rossitto a member of NIAB department

DATA ANALISYS

In the 2000-2009 period, the average percentage of offenders identified or reported to the judiciary amounts to 7.8% of the total of crimes by unidentified offenders. In 2009, this percentage was 8.2%.

PERCENTAGE OF PEOPLE BROUGHT BEFORE THE JUDICIARY COMPARED TO THE NUMBER OF TOTAL FIRES IN THE 2000-2009 PERIOD



This percentage marks an improvement for various reasons, chiefly among them are the high number of crimes, the backdrop of widespread illegality against which this kind of crime is committed, the vastness of the territory, the multiplicity of the motives, causes and motivational matrixes behind forest fires and, above all, the difficulty in gathering evidence. To achieve an average success rate of 8% is a significant achievement.

The investigations carried out in 2009 showed that 13.7% of the persons brought before the judiciary (43 persons) had a criminal record. In 2009, 13 persons were arrested. The motives are outlined in the following table.

2009

ARRESTS AND DETENTION OF SUSPECT BY CFS

REGION	ARRESTS	PROVINCE	DATE	CAUSES
CALABRIA	4	Catanzaro	31 august	Clearing of pasture
		Cosenza	1 september	Pyromania
		Catanzaro	15 september	Clearing of pasture
		Cosenza	15 september	Clearing of pasture
LAZIO	3	Viterbo	31 august	Uncertain
		Viterbo	14 september	Fire fighting operators (two people)
UMBRIA	1	Perugia	1 august	Pyromania/Mental disorder
TOTAL	8			

THE JUDICIARY

An analysis conducted by NIAB of the sentences passed by the judicial authorities since 2000 shows that in 45% of cases the offenders were sentenced, while the remaining 55% were declared not guilty (13%) and 42% of cases were dismissed.

2000-2007

OUTCOME OF TRIAL

	NUMBER	%	NUMBER	%
NOT GUILTY	73	12.9	309	54.7
CASE DISMISSED	236	41.8		
GUILTY	235	41.6	256	45.3
PENAL DECREES	21	3.7		
TOTAL	565	100	565	100

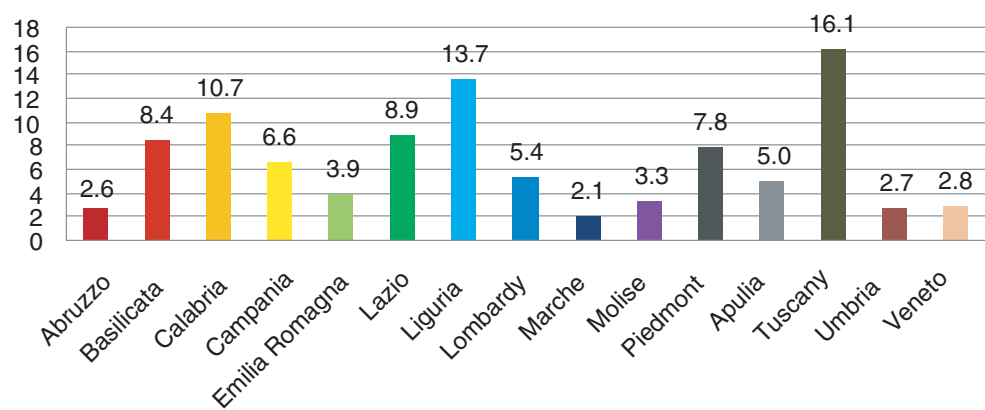
CONSIDERATIONS AND ACTIONS

In 2009, investigations were conducted above all in Tuscany, Campania, Calabria, Lazio and Liguria.

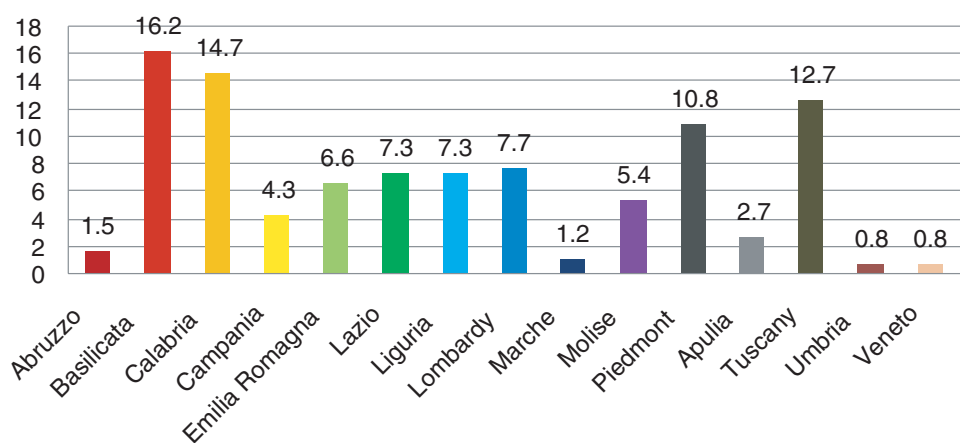
In the areas where investigations conducted, operators first identified the areas where the fires started, for this was successively useful in gathering evidence of devices and triggers as well as substances that accelerated combustion and to find out if the fire was due to negligence or caused by arson.

The following tables show the percentages by region of persons brought before the judicial authorities in the 2000-2009 period and in 2009.

PERCENTAGE OF PEOPLE BROUGHT BEFORE THE JUDICIARY IN THE 2000-2009 PERIOD BY REGION (TOTAL N. 3.875)

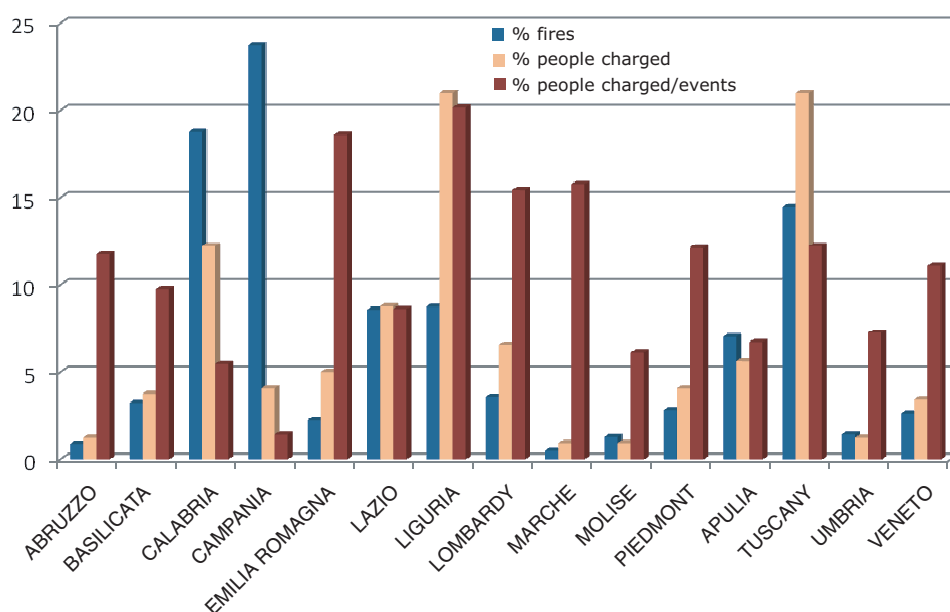


PERCENTAGE OF PEOPLE BROUGHT BEFORE THE JUDICIARY IN 2009 (TOTAL N. 317)



The following graph highlights for each region the ratio between wildfires and the number of people brought before the judiciary and thus permits assessment for future strategies. In particular, in Campania and Calabria – the hardest hit regions – the number of people brought before the judiciary with respect to the number of fires was the lowest compared to other regions.

RATIO BETWEEN THE NUMBER OF PEOPLE AND PERCENTAGE OF PEOPLE BROUGHT BEFORE THE JUDICIARY BY REGION IN 2009



There is a need for a strategic change in the way investigations are carried out. When successful, investigations invariably lead to a decline in the number of cases and therefore to an improvement in the fight against forest fires, a reduction of social alarm, public safety issues and costs.

The general aim is to strengthen the operative strength of the territorial headquarters. For this reason, analysis is carried out above all when the fire emergency period has passed and the territorial offices are not engaged in providing assistance.

The CFS believes that in the future it will be necessary to implement projects aimed at improving the capacity of gaining deeper knowledge and insight into the phenomenon such as:

1. organisation of personnel focusing on investigation and on the technical survey of burned sites in liaison with the staff employed in coordinating fire-fighting (DOS), in the regions where 80% of forest fires occur;
2. improved knowledge of the causes of fire in each territory as well as for the phenomenon as a whole because the component of causes classified as doubtful (uncertain causes + negligent doubtful negligent causes + uncertain arson cases, which together amount to 60% of all reported causes) continues to be too high;
3. involvement within the framework of the public security provincial committee of other police forces in fire prevention activities;
4. improvement of prevention measures through the application of administrative sanctions and prohibitions defined by law;
5. enhancement of the professional skills of personnel;
6. closer analysis of the phenomenon with the aim of setting the offender profiling activity against the various social backgrounds in which arsonists operate.

SPECIAL STATUTE REGIONS AND AUTONOMOUS PROVINCES

The following tables contain data relating to Special Statute Regions and to Autonomous Provinces in 2009:

2009	DELIBERATE WILDFIRES: JUDICIARY POLICE ACTIVITY BY THE FORESTRY DEPARTMENTS OF THE AUTONOMOUS REGIONS AND PROVINCES		
REGION	NUMBER OF PERSONS CHARGED WITHOUT ARREST	NUMBER OF ARRESTED PERSONS OR SUBJECT TO DETENTION	TOTAL
SICILY	12	0	12
TRENTO	NA	NA	NA
BOLZANO	NA	NA	NA
AOSTA VALLEY	NA	NA	NA
SARDINIA	NA	NA	NA
FRIULI V.G.	4	0	4

* NA: Not Available

NUMBER AND PERCENTAGE

NEGLIGENT FIRES BY MOTIVATION

REGION	CIGARETTE STUBBS AND MATCHES		FARMING- AND FOREST-RELATED ACTIVITIES		OTHER (TOURISM, LANDFILLS, POWER LINES, ETC.)		UNCERTAIN		TOTAL	
	NUMBER	%	NUMBER	%	NUMBER	%	NUMBER	%	NUMBER	%
SICILY	2	1.6	55	43.6	1	0.8	68	54.0	126	100
TRENTO	2	33.0	0	0.0	0	0.0	4	67.0	6	100
BOLZANO	1	8.0	2	16.0	6	50.0	3	24.0	12	100
AOSTA VALLEY	0	0.0	4	57.0	1	14.0	2	28.0	7	100
SARDINIA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
FRIULI V. G.	0	0.0	2	40.0	1	20.0	2	40.0	5	100

* NA: Not Available

NUMBER AND PERCENTAGE

ARSON BY MOTIVE

REGION	PURSUIT OF PROFIT		PROTEST AND RESENTMENT		BEHAVIOURAL DISORDER AND PYROMANIA		UNCERTAIN		TOTAL	
	NUMBER	%	NUMBER	%	NUMBER	%	NUMBER	%	NUMBER	%
SICILY	36	3.9	6	0.6	4	0.4	897	95.1	943	100
TRENTO	0	0.0	0	0.0	0	0.0	11	100	11	100
BOLZANO	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AOSTA VALLEY	0	0.0	0	0.0	0	0.0	3	100.0	3	100
SARDINIA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
FRIULI V. G.	2	5.5	1	2.8	1	2.8	32	88.9	36	100

* NA: Not Available

WILDFIRES THROUGHOUT THE WORLD

The most active institutions at an international level in the gathering of data on wildfires are the UN agencies (FAO globally and the UN/ECE for the European continent) and the European Commission (for the 27 member countries).

In particular, the Joint Research Centre (JRC) of the EC has been publishing for almost a decade *Forest Fires in Europe*, an annual report that gathers and comments on the salient data of member states from the previous year. The publication of this data is part of the *JRC European Forest Fire Information System (EFFIS)*, a broader project that also includes non-EU Mediterranean countries consisting in a technical-scientific structure that carries out research into wildfires through a specific web platform.

The principal results of these systems are the creation of a large database; the publication of fortnightly statistical bulletins throughout the summer period; and in the drawing up of wildfire risk maps that are sent out to the national services on a daily basis. (Further information is available on the JRC website: <http://effis.jrc.ec.europa.eu/>).

The following table shows the average number of wildfires and the total areas affected by fire in the countries included in the JRC *Forest Fires in Europe 2008* report.

With the exception of data marked with an asterisk, data refer to the 2000/2008 period. The basic data, which have been partially processed, come from the above-mentioned publication, available on <http://effis.jrc.ec.europa.eu/reports/fire-reports>

2000-2008

WILDFIRES THROUGHOUT THE WORLD

COUNTRY	NUMBER	FIRE-AFFECTED AREAS (HA)
Austria*	872	66
Bulgaria	709	15,944
Croatia	4,558	3,167
Cyprus	4,800	46,926
Czech Republic**	143	995
Finland	837	616
France	4,362	22,935
Germany	942	430
Greece	1,765	50,782
Hungary	382	1,889
Italy	7,463	85,047
Latvia	875	1,007
Lithuania	699	367
Macedonia (ex Rep. Yug.)***	612	19,290
Poland	10,371	7,566
Portugal	24,819	157,066
Romania	272	1,449
Slovakia	433	570
Slovenia****	96	615
Spain	18,664	125,687
Sweden	5,290	2,662
Switzerland	62	216
Turkey	2,128	11,067

* Data 2005/2007

** Available data: 2002/2008

*** Data 2007/2008

**** Data 2000/2006

***** Data 2002/2008

NATIONAL INITIATIVES

Fully aware that any initiative aimed at combating wildfire cannot neglect a significant information campaign, the Italian Forest Corps focuses a great deal of energy on institutional communication within this specific sector.

The CFS departments dealing with environmental education, namely the Schools, the Provincial Headquarters, the Territorial Offices for Biodiversity, the Territorial Environmental Coordination Centres set up within National Parks, organise wildfire sensitisation campaigns every year.

Regional administrations too have shown commitment in this field, implementing specific communication campaigns that have received EU funds within the Forest Focus project.

In compliance with Law n. 353/00 and with the 2007 ordinances issued by the Civil Protection Department, the CFS monitors and supervises fire prevention plans within national parks and state protected areas.

Special care has also been given to the training and retraining of CFS fire fighting personnel, with a special regard for the professional skills of the Forest Fire Incident Commander (DOS).

Personnel have also been encouraged to participate in conferences or study days dedicated to wildfire prevention and on the effects of wildfire on the climate and biomasses.

Several key provisions aimed at improving the AIB and Civil Protection organisational structures have also been issued, such as the Decree by the CFS chief n. 2532/09 of 17 July 2009.

New personal protection devices for fire fighting operators are currently being experimented and it is hoped they will be perfected in the near future. Similarly, progress to design suitable fire fighting vehicles is also underway.

INTERNATIONAL INITIATIVES

The following international initiatives were carried out in 2009:

1. Participation in the European project denominated FIRE 5 (Force d'Intervention Rapide Européenne 5) involving Portugal, Spain, France, Italy and Greece), by virtue of which CFS officers have joined the strengthened cooperation system: three officers have joined the first level of operations (general), one officer at the second level (advanced), one at the third level (self-training), and one at the fourth level (experts exchange).
2. Organisation, following a mandate received by the Ministry of Foreign Affairs of an anti-wildfire course, coordinated by the Civil Protection Department, for officers of the Shouf Reserve in Lebanon within the framework of the AID 9020 project for the protection of the citrus tree reserve in Lebanon (Shouf Reserve), from 19 to 23 October 2009.
3. Participation in the Second workshop: Forest Fires in the Mediterranean Prevention and Regional Cooperation, held at Latakia, in Syria, between 13-17 November 2009; initiative co-financed by CFS and FAO. The meeting, attended by 13 countries, tackled the issues of wildfires in the Middle East and North Africa, international cooperation, the setting up of a liaison structure between the interested parties (Near East Regional network on Forest and Wildland Fires – NENFIRE), and the establishment of an international fire fighting school in Turkey.
4. Organisation of a fire fighting operation for the ISSMI (Istituto Superiore di Stato Maggiore Interforze) Joint Services Staff College, which is part of the European Security and Defence College (ESDC) network; on behalf of the civil protection department as part of the encounters between top-ranking officers of five EU and five African countries (“Exercise 5+5”) concerning the protection against earthquakes and wildfires. The event was organised at the military airport of Vigna di Valle – Bracciano (RM) on 13 May 2009. Following a technical-scientific presentation on wildfires, a demonstration was given on the salient phases as well as the flow of the information, communication, decision and action that are activated following a call received by the “1515” helpline. The event was attended by the Department of Civil Protection (COAU sent in two aircrafts of the state fleet, a Canadair CL 415 of SOREM and a Chinook CH 47 of AVES); Air Force (airport facilities and equipment, technology installations, logistics); the 3rd Division of the CFS; the regional headquarters of Lazio and Liguria, with an expert from the EU FIRE5 cooperation; representatives of the Bracciano city administration; and the Navy.

5. Appointment of a CFS representative within the EFFIS (European Forest Fire Information System) group of the European Commission JRC (Joint Research Centre).
6. Starting of the EU Leonardo PAWS-MED “Waldpädagogik” (from the German: forest education), which in Mediterranean countries will focus on wildfires and provide to forestry staff training on forest and environmental pedagogy.

THE REGIONS AND FOREST FIRES

The regional data reports that follow contain a summary of the forest fires for each Region. Each data sheet is preceded by an informative table intended to give the reader a general overview of the territory, including details of the territorial area, forested area, and data about protected areas.

TERRITORIAL AREA DATA – The source for this data is the Statistical Yearbook published by Italian National Statistical Institute (ISTAT).

FORESTED AREA DATA – The source is the “National Inventory of Forests and Forest Carbon pools” (INFC) - 2008. Also provided is the data for each province and the margin of error, which varies between provinces due to the breadth of the forested area.

PROTECTED AREA DATA – The source for this data is the Minister of the Environment and the Protection of Land and the Sea referred to in the Official List of Protected Areas (EUAP), and published in the Official Gazette. The reported regional protected area includes:

- National Parks
- Regional Parks
- State Natural Reserves
- Regional Natural Reserves
- Other Regional Protected Natural Areas

NOTE – In the tables that follow, when the area affected by fire is inferior to a single unit, for statistical reasons it is shown as <1.

AOSTA VALLEY

THE TERRITORY

TERRITORIAL AREA (HA)	326,322	TOTAL FORESTED AREA (HA)		STATISTIC ERROR (%)
FOREST DENSITY INDEX %	32.46	AOSTA	105,928	2.7
PROTECTED AREA (HA)	43,431	TOTAL	105,928	
WILDFIRES IN PROTECTED AREAS %	13.3			

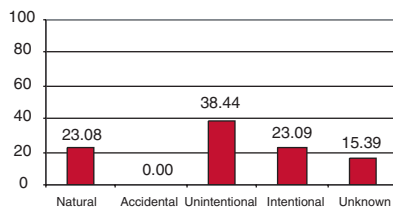
PERIOD 2006-2008

PROVINCE	NUMBER OF FIRES			WOODLAND (HA)			NON-WOODLAND (HA)		
	2006	2007	2008	2006	2007	2008	2006	2007	2008
AOSTA	19	12	11	64	4	6	28	6	8
TOTAL	19	12	11	64	4	6	28	6	8

FIRES 2009

PROVINCE	NUMBER	SURFACE AREA AFFECTED BY FIRE (HA)			
		WOODLAND	NON-WOODLAND	TOTAL	AVERAGE
AOSTA	13	2	5	7	0.5
REGIONAL TOTAL	13	2	5	7	0.5

CLASSIFIED BY CAUSE



PIEDMONT

THE TERRITORY

TERRITORIAL AREA (HA)	2,539,983
FOREST DENSITY INDEX %	37.01
PROTECTED AREA (HA)	160,415
WILDFIRES IN PROTECTED AREAS %	6.3

	TOTAL FORESTED AREA (HA)	STATISTIC ERROR (%)
ALESSANDRIA	137,817	5.1
ASTI	47,868	9.0
BIELLA	38,648	10.1
CUNEO	254,993	3.5
NOVARA	32,001	11.1
TURIN	255,649	3.5
VERBANIA	122,271	5.5
VERCELLI	50,869	8.7
TOTAL	940,116	

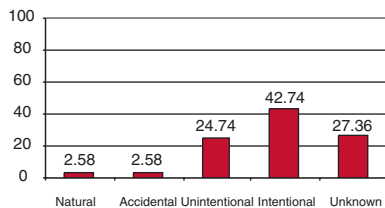
PERIOD 2006-2008

PROVINCE	NUMBER OF FIRES			WOODLAND (HA)			NON-WOODLAND (HA)		
	2006	2007	2008	2006	2007	2008	2006	2007	2008
ALESSANDRIA	40	42	14	52	37	13	21	25	1
ASTI	18	14	0	10	10	0	6	8	0
BIELLA	30	67	32	62	310	145	131	292	46
CUNEO	34	87	23	151	277	35	25	302	5
NOVARA	34	35	10	231	65	11	3	0	5
TURIN	91	108	65	277	820	472	125	690	119
VERBANIA	25	28	4	47	584	20	23	179	30
VERCELLI	8	12	9	4	36	2	6	5	0
TOTAL	280	393	157	834	2,139	698	340	1,501	206

FIRES 2009

PROVINCE	NUMBER	SURFACE AREA AFFECTED BY FIRE (HA)			
		WOODLAND	NON-WOODLAND	TOTAL	AVERAGE
ALESSANDRIA	8	4	6	10	1.3
ASTI	0	0	0	0	0.0
BIELLA	20	41	12	53	2.7
CUNEO	12	7	1	8	0.7
NOVARA	19	53	0	53	2.8
TURIN	39	111	39	150	3.8
VERBANIA	10	2	4	6	0.6
VERCELLI	9	68	25	93	10.3
REGIONAL TOTAL	117	286	87	373	3.2

CLASSIFIED BY CAUSE



LOMBARDY

THE TERRITORY

TERRITORIAL AREA (HA)	2,386,285
FOREST DENSITY INDEX %	27.90
PROTECTED AREA (HA)	132,610
WILDFIRES IN PROTECTED AREAS %	5.6

	TOTAL FORESTED AREA (HA)	STATISTIC ERROR (%)
BERGAMO	118,149	5.7
BRESCIA	158,812	4.7
COMO	65,340	7.9
CREMONA	7,690	21.4
LECCO	40,035	10.2
LODI	2,672	38.0
MANTOVA	8,844	19.0
MILAN	9,931	20.8
PAVIA	58,760	8.0
SONDRIO	141,691	5.1
VARESE	53,779	8.8
TOTAL	665,703	

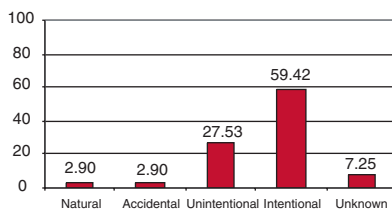
PERIOD 2006-2008

PROVINCE	NUMBER OF FIRES			WOODLAND (HA)			NON-WOODLAND (HA)		
	2006	2007	2008	2006	2007	2008	2006	2007	2008
BERGAMO	25	27	27	14	12	10	78	76	70
BRESCIA	40	71	26	25	243	248	359	497	170
COMO	22	49	33	21	40	181	76	277	300
CREMONA	0	1	1	0	4	3	0	0	0
LECCO	12	16	10	69	19	14	24	19	0
LODI	0	2	0	0	0	0	0	7	0
MANTOVA	0	2	6	0	0	47	0	1	0
MILAN	7	17	2	23	18	0	1	0	0
PAVIA	8	14	15	6	12	28	1	6	2
SONDRIO	15	21	18	25	183	46	14	55	1
VARESE	27	44	15	70	135	20	4	4	2
TOTAL	156	264	153	253	666	597	557	942	545

FIRES 2009

PROVINCE	NUMBER	SURFACE AREA AFFECTED BY FIRE (HA)			
		WOODLAND	NON-WOODLAND	TOTAL	AVERAGE
BERGAMO	23	37	12	49	2.1
BRESCIA	35	139	23	162	4.6
COMO	23	18	66	84	3.7
CREMONA	2	4	0	4	2.0
LECCO	11	13	24	37	3.4
LODI	0	0	0	0	0.0
MANTOVA	0	0	0	0	0.0
MILAN	3	1	0	1	0.3
MONZA AND BRIANZA	0	0	0	0	0.0
PAVIA	9	19	3	22	2.4
SONDRIO	11	4	0	4	0.4
VARESE	21	33	0	33	1.6
REGIONAL TOTAL	138	268	128	396	2.9

CLASSIFIED BY CAUSE



TRENTINO ALTO ADIGE (TRENTINO SÜDTIROL)

THE TERRITORY

		TOTAL FORESTED AREA (HA)	STATISTIC ERROR (%)
TERRITORIAL AREA (HA)	1,360,687		
FOREST DENSITY INDEX %	57.30	BOLZANO 372,174	1.3
PROTECTED AREA (HA)	269,289	TRENTO 407,531	1.1
WILDFIRES IN PROTECTED AREAS %	19.8	TOTAL 779,705	

PERIOD 2006-2008

PROVINCE	NUMBER OF FIRES			WOODLAND (HA)			NON-WOODLAND (HA)		
	2006	2007	2008	2006	2007	2008	2006	2007	2008
BOLZANO	33	25	4	3	1	0	2	3	0
TRENTO	31	83	21	1	123	1	0	32	2
TOTAL	64	108	25	4	124	1	2	35	2

FIRES 2009

PROVINCE	NUMBER	SURFACE AREA AFFECTED BY FIRE (HA)			
		WOODLAND	NON-WOODLAND	TOTAL	AVERAGE
BOLZANO	11	<1	<1	<1	-
TRENTO	37	4	1	5	0.1
REGIONAL TOTAL	48	>4	>1	>5	0.1

VENETO

THE TERRITORY

TERRITORIAL AREA (HA)	1,839,122
FOREST DENSITY INDEX %	24.30
PROTECTED AREA (HA)	86,703
WILDFIRES IN PROTECTED AREAS %	4.7

	TOTAL FORESTED AREA (HA)	STATISTIC ERROR (%)
BELLUNO	237,128	3.0
PADOVA	7,405	22.3
ROVIGO	2,519	37.7
TREVISO	45,099	8.7
VENICE	4,109	30.1
VERONA	50,762	8.2
VICENZA	99,834	5.6
TOTAL	446,856	

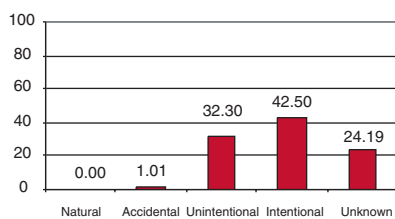
PERIOD 2006-2008

PROVINCE	NUMBER OF FIRES			WOODLAND (HA)			NON-WOODLAND (HA)		
	2006	2007	2008	2006	2007	2008	2006	2007	2008
BELLUNO	10	9	7	1	40	6	0	0	0
PADOVA	7	11	4	1	1	1	0	1	0
ROVIGO	4	3	2	17	0	0	23	1	3
TREVISO	5	8	3	3	2	2	6	1	1
VENICE	0	2	1	0	1	0	0	0	0
VERONA	11	31	27	4	4	4	5	5	7
VICENZA	12	22	4	11	19	2	8	25	2
TOTAL	49	86	48	37	67	15	42	33	13

FIRES 2009

PROVINCE	NUMBER	SURFACE AREA AFFECTED BY FIRE (HA)			
		WOODLAND	NON-WOODLAND	TOTAL	AVERAGE
BELLUNO	8	2	1	3	0.4
PADOVA	7	1	2	3	0.4
ROVIGO	6	2	4	6	1.0
TREVISO	10	7	1	8	0.8
VENICE	0	0	0	0	0.0
VERONA	50	12	13	25	0.5
VICENZA	18	6	3	9	0.5
REGIONAL TOTAL	99	30	24	54	0.5

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FRIULI VENEZIA GIULIA

THE TERRITORY

		TOTAL FORESTED AREA (HA)	STATISTIC ERROR (%)
TERRITORIAL AREA (HA)	785,648	GORIZIA 10,733	18.3
FOREST DENSITY INDEX %	45.47	PORDENONE 89,105	5.7
PROTECTED AREA (HA)	52,963	TRIESTE 12,634	16.9
WILDFIRES IN PROTECTED AREAS %	6.7	UDINE 244,752	2.5
		TOTAL 357,224	

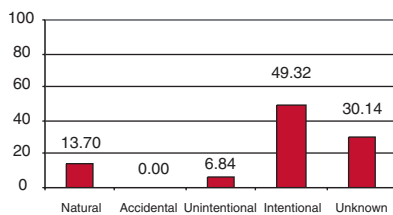
PERIOD 2006-2008

PROVINCE	NUMBER OF FIRES			WOODLAND (HA)			NON-WOODLAND (HA)		
	2006	2007	2008	2006	2007	2008	2006	2007	2008
GORIZIA	35	26	27	26	2	2	99	11	4
PORDENONE	11	11	7	2	2	2	42	8	6
TRIESTE	40	24	11	20	16	7	1	0	2
UDINE	32	31	21	176	77	2	90	48	42
TOTAL	118	92	66	224	97	13	232	67	54

FIRES 2009

PROVINCE	NUMBER	SURFACE AREA AFFECTED BY FIRE (HA)			
		WOODLAND	NON-WOODLAND	TOTAL	AVERAGE
GORIZIA	16	18	71	89	5.6
PORDENONE	17	24	11	35	2.1
TRIESTE	26	14	1	15	0.6
UDINE	14	142	73	215	15.4
REGIONAL TOTAL	73	198	156	354	4.8

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LIGURIA

THE TERRITORY

		TOTAL FORESTED AREA (HA)	STATISTIC ERROR (%)
TERRITORIAL AREA (HA)	542,024	GENOA 131,063	4.4
FOREST DENSITY INDEX %	69.21	IMPERIA 71,114	6.5
PROTECTED AREA (HA)	26,779	LA SPEZIA 54,229	7.6
WILDFIRES IN PROTECTED AREAS %	4.9	SAVONA 118,728	4.7
		TOTAL 375,134	

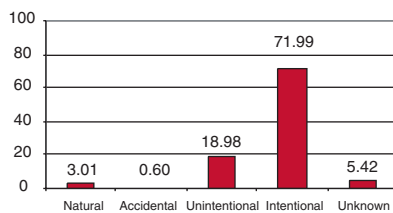
PERIOD 2006-2008

PROVINCE	NUMBER OF FIRES			WOODLAND (HA)			NON-WOODLAND (HA)		
	2006	2007	2008	2006	2007	2008	2006	2007	2008
GENOA	103	118	100	112	411	145	318	380	296
IMPERIA	123	137	77	265	613	229	38	73	110
LA SPEZIA	64	46	69	278	116	17	23	2	6
SAVONA	89	76	45	493	1,345	20	20	73	1
TOTAL	379	377	291	1,148	2,485	411	399	528	413

FIRES 2009

PROVINCE	NUMBER	SURFACE AREA AFFECTED BY FIRE (HA)			
		WOODLAND	NON-WOODLAND	TOTAL	AVERAGE
GENOA	115	508	913	1,421	12.4
IMPERIA	98	309	168	477	4.9
LA SPEZIA	59	617	73	690	11.7
SAVONA	60	55	1	56	0.9
REGIONAL TOTAL	332	1,489	1,155	2,644	8.0

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EMILIA ROMAGNA

THE TERRITORY

TERRITORIAL AREA (HA)	2,212,309
FOREST DENSITY INDEX %	27.52
PROTECTED AREA (HA)	88,390
WILDFIRES IN PROTECTED AREAS %	4.0

	TOTAL FORESTED AREA (HA)	STATISTIC ERROR (%)
BOLOGNA	100,761	5.6
FERRARA	4,995	26.2
FORLÌ - CESENA	106,621	5.5
MODENA	68,695	7.0
PARMA	152,542	4.4
PIACENZA	84,837	6.2
RAVENNA	21,332	13.0
REGGIO EMILIA	63,518	7.3
RIMINI	5,517	25.8
TOTAL	608,818	

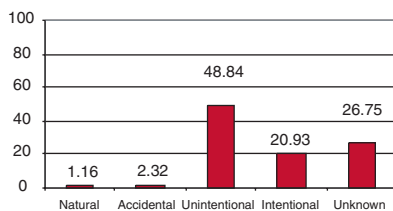
PERIOD 2006-2008

PROVINCE	NUMBER OF FIRES			WOODLAND (HA)			NON-WOODLAND (HA)		
	2006	2007	2008	2006	2007	2008	2006	2007	2008
BOLOGNA	23	51	36	17	133	23	8	88	28
FERRARA	1	3	0	13	1	0	15	0	0
FORLÌ - CESENA	6	24	12	6	217	3	3	462	3
MODENA	5	22	20	3	7	4	10	5	10
PARMA	6	16	15	20	30	15	15	8	15
PIACENZA	10	16	9	3	7	23	13	13	5
RAVENNA	8	17	24	1	11	8	0	6	0
REGGIO EMILIA	5	12	10	0	2	8	5	11	10
RIMINI	1	2	2	23	1	1	0	0	0
TOTAL	65	163	128	86	409	85	69	593	71

FIRES 2009

PROVINCE	NUMBER	SURFACE AREA AFFECTED BY FIRE (HA)			
		WOODLAND	NON-WOODLAND	TOTAL	AVERAGE
BOLOGNA	17	16	9	25	1.5
FERRARA	3	1	0	1	0.3
FORLÌ - CESENA	4	4	3	7	1.8
MODENA	11	6	26	32	2.9
PARMA	15	20	9	29	1.9
PIACENZA	15	10	40	50	3.3
RAVENNA	11	6	3	9	0.8
REGGIO EMILIA	10	6	12	18	1.8
RIMINI	0	0	0	0	0.0
REGIONAL TOTAL	86	69	102	171	2.0

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TUSCANY

THE TERRITORY

TERRITORIAL AREA (HA)	2,299,018
FOREST DENSITY INDEX %	50.09
PROTECTED AREA (HA)	207,610
WILDFIRES IN PROTECTED AREAS %	9.0

	TOTAL FORESTED AREA (HA)	STATISTIC ERROR (%)
AREZZO	179,219	4.2
FLORENCE	178,500	4.2
GROSSETO	197,961	4.0
LIVORNO	47,364	8.6
LUCCA	121,044	5.2
MASSA CARRARA	86,713	6.2
PISA	95,053	6.0
PISTOIA	50,640	8.3
PRATO	23,335	12.3
SIENA	171,710	4.3
TOTAL	1,151,539	

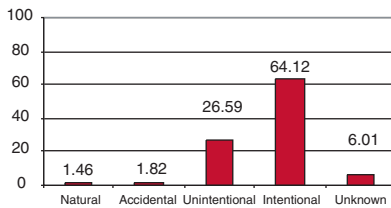
PERIOD 2006-2008

PROVINCE	NUMBER OF FIRES			WOODLAND (HA)			NON-WOODLAND (HA)		
	2006	2007	2008	2006	2007	2008	2006	2007	2008
AREZZO	62	88	49	40	126	33	24	57	21
FLORENCE	98	71	85	25	98	26	24	32	30
GROSSETO	40	46	28	37	31	19	30	105	13
LIVORNO	10	26	17	10	19	1	6	14	7
LUCCA	93	104	95	131	283	190	28	144	334
MASSA CARRARA	45	84	65	90	149	83	11	7	36
PISA	52	57	48	18	43	36	44	10	49
PISTOIA	35	56	40	8	29	38	6	3	14
PRATO	14	9	6	3	3	4	3	0	0
SIENA	42	39	23	28	28	22	45	149	33
TOTAL	491	580	456	390	809	452	221	521	537

FIRES 2009

PROVINCE	NUMBER	SURFACE AREA AFFECTED BY FIRE (HA)			
		WOODLAND	NON-WOODLAND	TOTAL	AVERAGE
AREZZO	45	22	10	32	0.7
FLORENCE	101	93	38	131	1.3
GROSSETO	25	25	11	36	1.4
LIVORNO	22	5	3	8	0.4
LUCCA	117	598	235	833	7.1
MASSA CARRARA	70	65	28	93	1.3
PISA	69	554	88	642	9.3
PISTOIA	54	36	9	45	0.8
PRATO	19	3	2	5	0.3
SIENA	27	6	7	13	0.5
REGIONAL TOTAL	549	1,407	431	1,838	3.3

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UMBRIA

THE TERRITORY

		TOTAL FORESTED AREA (HA)	STATISTIC ERROR (%)
TERRITORIAL AREA (HA)	845,604		
FOREST DENSITY INDEX %	46.15	PERUGIA 293,878	2.1
PROTECTED AREA (HA)	62,984	TERNI 96,377	5.5
WILDFIRES IN PROTECTED AREAS %	7.4	TOTAL 390,255	

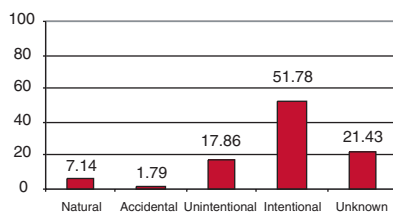
PERIOD 2006-2008

PROVINCE	NUMBER OF FIRES			WOODLAND (HA)			NON-WOODLAND (HA)		
	2006	2007	2008	2006	2007	2008	2006	2007	2008
PERUGIA	46	104	76	73	794	79	50	229	60
TERNI	25	56	40	11	213	58	53	174	144
TOTAL	71	160	116	84	1,007	137	103	403	204

FIRES 2009

PROVINCE	NUMBER	SURFACE AREA AFFECTED BY FIRE (HA)			
		WOODLAND	NON-WOODLAND	TOTAL	AVERAGE
PERUGIA	39	40	9	49	1.3
TERNI	17	4	2	6	0.4
REGIONAL TOTAL	56	44	11	55	1.0

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MARCHE

THE TERRITORY

		TOTAL FORESTED AREA (HA)	STATISTIC ERROR (%)
TERRITORIAL AREA (HA)	969,406	ANCONA 30,071	10.7
FOREST DENSITY INDEX %	31.78	ASCOLI PICENO 68,832	6.7
PROTECTED AREA (HA)	89,171	MACERATA 87,755	5.7
WILDFIRES IN PROTECTED AREAS %	9.2	PESARO URBINO 121,418	4.6
		TOTAL 308,076	

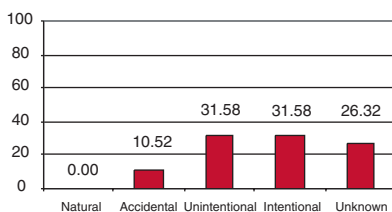
PERIOD 2006-2008

PROVINCE	NUMBER OF FIRES			WOODLAND (HA)			NON-WOODLAND (HA)		
	2006	2007	2008	2006	2007	2008	2006	2007	2008
ANCONA	7	15	3	33	613	1	3	159	4
ASCOLI PICENO	13	31	14	19	2,854	9	8	851	2
MACERATA	8	17	8	6	30	3	7	21	28
PESARO URBINO	7	39	11	13	469	15	2	91	7
TOTAL	35	102	36	71	3,966	28	20	1,122	41

FIRES 2009

PROVINCE	NUMBER	SURFACE AREA AFFECTED BY FIRE (HA)			
		WOODLAND	NON-WOODLAND	TOTAL	AVERAGE
ANCONA	7	18	4	22	3.1
ASCOLI PICENO	5	5	10	15	3.0
MACERATA	1	2	0	2	2.0
PESARO URBINO	6	13	11	24	4.0
REGIONAL TOTAL	19	38	25	63	3.3

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LAZIO

THE TERRITORY

TERRITORIAL AREA (HA)	1,720,768
FOREST DENSITY INDEX %	35.21
PROTECTED AREA (HA)	212,876
WILDFIRES IN PROTECTED AREAS %	12.4

	TOTAL FORESTED AREA (HA)	STATISTIC ERROR (%)
FROSINONE	136,315	4.7
LATINA	57,295	7.7
RIETI	163,410	4.2
ROME	157,119	4.3
VITERBO	91,720	5.9
TOTAL	605,859	

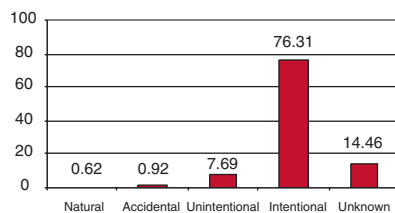
PERIOD 2006-2008

PROVINCE	NUMBER OF FIRES			WOODLAND (HA)			NON-WOODLAND (HA)		
	2006	2007	2008	2006	2007	2008	2006	2007	2008
FROSINONE	70	208	77	287	2,482	483	243	958	426
LATINA	114	282	143	472	4,657	925	115	1,439	302
RIETI	19	55	22	32	344	40	11	375	22
ROME	44	160	64	171	939	145	344	1,764	107
VITERBO	27	73	41	62	268	108	185	341	191
TOTAL	274	778	347	1,024	8,690	1,701	898	4,877	1,048

FIRES 2009

PROVINCE	NUMBER	SURFACE AREA AFFECTED BY FIRE (HA)			
		WOODLAND	NON-WOODLAND	TOTAL	AVERAGE
FROSINONE	68	316	49	365	5.4
LATINA	136	1,199	191	1,390	10.2
RIETI	22	82	17	99	4.5
ROME	66	154	419	573	8.7
VITERBO	33	51	50	101	3.1
REGIONAL TOTAL	325	1,802	726	2,528	7.8

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ABRUZZO

THE TERRITORY

		TOTAL FORESTED AREA (HA)	STATISTIC ERROR (%)
TERRITORIAL AREA (HA)	1,079,512	CHieti 77,975	6.3
FOREST DENSITY INDEX %	40.63	L'AQUILA 243,256	2.9
PROTECTED AREA (HA)	309,039	PESCARA 45,341	8.6
WILDFIRES IN PROTECTED AREAS %	28.6	TERAMO 72,018	6.6
		TOTAL 438,590	

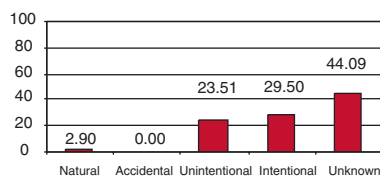
PERIOD 2006-2008

PROVINCE	NUMBER OF FIRES			WOODLAND (HA)			NON-WOODLAND (HA)		
	2006	2007	2008	2006	2007	2008	2006	2007	2008
CHIETI	21	108	39	97	2,572	94	98	4,034	95
L'AQUILA	10	59	39	35	5,904	180	9	4,486	163
PESCARA	6	43	6	7	1,601	5	60	2,216	60
TERAMO	19	64	11	19	194	12	15	160	7
TOTAL	56	274	95	158	10,271	291	182	10,896	325

FIRES 2009

PROVINCE	NUMBER	SURFACE AREA AFFECTED BY FIRE (HA)			
		WOODLAND	NON-WOODLAND	TOTAL	MEDIA
CHIETI	15	21	17	38	2.5
L'AQUILA	9	74	32	106	11.8
PESCARA	1	0	2	2	2.0
TERAMO	9	9	4	13	1.4
REGIONAL TOTAL	34	104	55	159	4.7

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MOLISE

THE TERRITORY

		TOTAL FORESTED AREA (HA)	STATISTIC ERROR (%)
TERRITORIAL AREA (HA)	443,765		
FOREST DENSITY INDEX %	33.50	CAMPOBASSO 77,378	5.4
PROTECTED AREA (HA)	6,584	ISERNIA 71,263	5.8
WILDFIRES IN PROTECTED AREAS %	1.5	TOTAL 148,641	

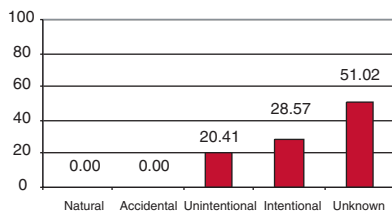
PERIOD 2006-2008

PROVINCE	NUMBER OF FIRES			WOODLAND (HA)			NON-WOODLAND (HA)		
	2006	2007	2008	2006	2007	2008	2006	2007	2008
CAMPOBASSO	31	130	101	22	833	235	98	1,082	369
ISERNIA	26	103	65	34	416	84	59	527	125
TOTAL	57	233	166	56	1,249	319	157	1,609	494

FIRES 2009

PROVINCE	NUMBER	SURFACE AREA AFFECTED BY FIRE (HA)			
		WOODLAND	NON-WOODLAND	TOTAL	AVERAGE
CAMPOBASSO	28	28	70	98	3.5
ISERNIA	21	47	41	88	4.2
REGIONAL TOTAL	49	75	111	186	3.8

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CAMPANIA

		TOTAL FORESTED AREA (HA)	STATISTIC ERROR (%)	
THE TERRITORY				
TERRITORIAL AREA (HA)	1,359,025	AVELLINO	82,932	6.2
FOREST DENSITY INDEX %	32.76	BENEVENTO	43,959	8.8
PROTECTED AREA (HA)	333,222	CASERTA	73,312	6.6
WILDFIRES IN PROTECTED AREAS %	24.5	NAPLES	14,652	15.7
		SALERNO	230,419	3.1
		TOTAL	445,274	

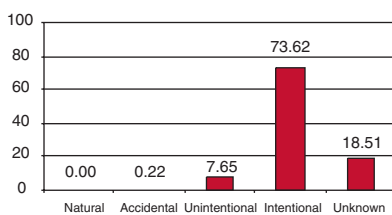
PERIOD 2006-2008

PROVINCE	NUMBER OF FIRES			WOODLAND (HA)			NON-WOODLAND (HA)		
	2006	2007	2008	2006	2007	2008	2006	2007	2008
AVELLINO	79	452	185	185	2,786	513	118	964	130
BENEVENTO	54	312	91	48	1,918	168	65	1,352	188
CASERTA	80	189	89	422	6,055	927	337	865	110
NAPLES	44	154	75	227	915	147	228	163	5
SALERNO	214	672	359	133	7,025	1,181	460	4,264	587
TOTAL	471	1,779	799	1,015	18,699	2,936	1,208	7,608	1,020

FIRES 2009

PROVINCE	NUMBER	SURFACE AREA AFFECTED BY FIRE (HA)			
		WOODLAND	NON-WOODLAND	TOTAL	AVERAGE
AVELLINO	167	1,230	39	1,269	7.6
BENEVENTO	127	327	412	739	5.8
CASERTA	124	1,164	259	1,423	11.5
NAPLES	90	436	36	472	5.2
SALERNO	395	1,724	575	2,299	5.8
REGIONAL TOTAL	903	4,881	1,321	6,202	6.9

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APULIA

THE TERRITORY

TERRITORIAL AREA (HA)	1,936,580
FOREST DENSITY INDEX %	9.25
PROTECTED AREA (HA)	131,020
WILDFIRES IN PROTECTED AREAS %	6.8

TOTAL FORESTED AREA (HA)	STATISTIC ERROR (%)
BARI	28,236
BRINDISI	3,107
FOGGIA	111,204
LECCE	5,459
TARANTO	31,034
TOTAL	179,040

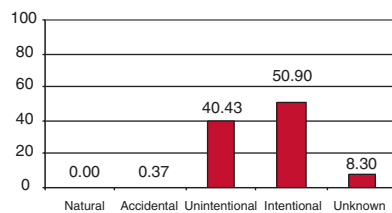
PERIOD 2006-2008

PROVINCE	NUMBER OF FIRES			WOODLAND (HA)			NON-WOODLAND (HA)		
	2006	2007	2008	2006	2007	2008	2006	2007	2008
BARI	97	171	139	204	1,183	1,314	1,186	4,264	1,858
BRINDISI	8	18	16	13	70	65	24	187	33
FOGGIA	84	198	144	254	6,651	1,371	386	4,627	1,866
LECCE	65	101	78	100	451	143	108	290	148
TARANTO	53	105	109	421	1,599	1,319	438	646	373
TOTAL	307	593	486	992	9,954	4,212	2,142	10,014	4,278

FIRES 2009

PROVINCE	NUMBER	SURFACE AREA AFFECTED BY FIRE (HA)			
		WOODLAND	NON-WOODLAND	TOTAL	AVERAGE
BARI	79	766	2,033	2,799	35.4
BRINDISI	12	8	11	19	1.6
FOGGIA	70	244	300	544	7.8
LECCE	54	125	134	259	4.8
TARANTO	62	384	353	737	11.9
REGIONAL TOTAL	277	1,527	2,831	4,358	15.7

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BASILICATA

THE TERRITORY

		TOTAL FORESTED AREA (HA)	STATISTIC ERROR (%)
TERRITORIAL AREA (HA)	999,461		
FOREST DENSITY INDEX %	35.66	MATERA 78,875	6.2
PROTECTED AREA (HA)	129,294	POTENZA 277,551	2.3
WILDFIRES IN PROTECTED AREAS %	12.9	TOTAL 356,426	

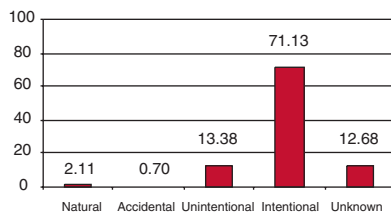
PERIOD 2006-2008

PROVINCE	NUMBER OF FIRES			WOODLAND (HA)			NON-WOODLAND (HA)		
	2006	2007	2008	2006	2007	2008	2006	2007	2008
MATERA	53	108	123	333	690	1,146	299	1,827	1,396
POTENZA	100	306	184	229	2,927	1,181	206	2,756	1,534
TOTAL	153	414	307	562	3,617	2,327	505	4,583	2,930

FIRES 2009

PROVINCE	NUMBER	SURFACE AREA AFFECTED BY FIRE (HA)			
		WOODLAND	NON-WOODLAND	TOTAL	AVERAGE
MATERA	30	70	96	166	5.5
POTENZA	112	581	294	875	7.8
REGIONAL TOTAL	142	651	390	1,041	7.3

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CALABRIA

THE TERRITORY

TERRITORIAL AREA (HA)	1,508,055
FOREST DENSITY INDEX %	40.64
PROTECTED AREA (HA)	251,985
WILDFIRES IN PROTECTED AREAS %	16.7

	TOTAL FORESTED AREA (HA)	STATISTIC ERROR (%)
CATANZARO	94,004	5.9
COSENZA	330,136	2.5
CROTONE	46,641	8.7
REGGIO CALABRIA	108,493	5.4
VIBO VALENTIA	33,657	10.2
TOTAL	612,931	

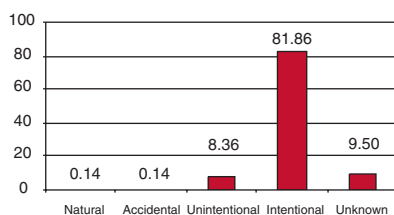
PERIOD 2006-2008

PROVINCE	NUMBER OF FIRES			WOODLAND (HA)			NON-WOODLAND (HA)		
	2006	2007	2008	2006	2007	2008	2006	2007	2008
CATANZARO	162	384	280	462	6,001	1,210	434	2,870	1,076
COSENZA	356	882	518	829	14,221	5,351	744	8,166	1,902
CROTONE	131	206	160	457	1,012	948	699	1,738	1,644
REGGIO CALABRIA	307	336	268	1,014	2,880	2,187	3,214	5,274	3,021
VIBO VALENTIA	27	72	53	72	692	540	31	272	130
TOTAL	983	1,880	1,279	2,834	24,806	10,236	5,122	18,320	7,773

FIRES 2009

PROVINCE	NUMBER	SURFACE AREA AFFECTED BY FIRE (HA)			
		WOODLAND	NON-WOODLAND	TOTAL	AVERAGE
CATANZARO	110	359	416	775	7.0
COSENZA	466	3,075	1,319	4,394	9.4
CROTONE	66	233	204	437	6.6
REGGIO CALABRIA	61	402	1,129	1,531	25.1
VIBO VALENTIA	13	45	19	64	4.9
REGIONAL TOTAL	716	4,114	3,087	7,201	10.1

CLASSIFIED BY CAUSE



SICILY

THE TERRITORY

TERRITORIAL AREA (HA)	2,570,282
FOREST DENSITY INDEX %	13.16
PROTECTED AREA (HA)	270,302
WILDFIRES IN PROTECTED AREAS %	10.5

	TOTAL FORESTED AREA (HA)	STATISTIC ERROR (%)
AGRIGENTO	15,966	15.1
CALTANISSETTA	11,314	18.1
CATANIA	57,232	7.7
ENNA	22,711	12.6
MESSINA	109,874	5.2
PALERMO	78,464	6.4
RAGUSA	10,139	19.1
SIRACUSA	20,720	13.2
TRAPANI	11,751	17.7
TOTAL	338,171	

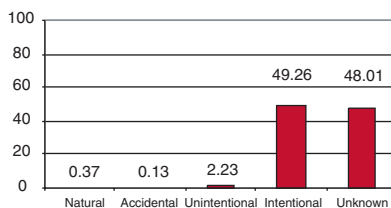
PERIOD 2006-2008

PROVINCE	NUMBER OF FIRES			WOODLAND (HA)			NON-WOODLAND (HA)		
	2006	2007	2008	2006	2007	2008	2006	2007	2008
AGRIGENTO	306	528	228	525	937	128	3,389	9,488	3,385
CALTANISSETTA	34	46	48	296	390	395	385	1,737	1,083
CATANIA	90	100	74	345	1,768	625	582	1,671	1,259
ENNA	49	97	94	726	1,942	557	190	3,624	2,264
MESSINA	111	163	80	653	4,535	464	680	6,685	1,437
PALERMO	146	122	77	1,105	4,400	1,282	1,237	2,970	1,560
RAGUSA	52	61	55	46	113	113	194	707	391
SIRACUSA	24	39	68	117	434	336	189	1,121	1,116
TRAPANI	123	98	73	869	809	141	1,942	3,118	1,238
TOTAL	935	1,254	797	4,682	15,328	4,041	8,788	31,121	13,733

FIRES 2009

PROVINCE	NUMBER	SURFACE AREA AFFECTED BY FIRE (HA)			
		WOODLAND	NON-WOODLAND	TOTAL	AVERAGE
AGRIGENTO	368	97	2,808	2,905	7.9
CALTANISSETTA	25	209	171	380	15.2
CATANIA	48	307	307	614	12.8
ENNA	42	91	333	424	10.1
MESSINA	60	224	994	1,218	20.3
PALERMO	79	437	948	1,385	17.5
RAGUSA	41	171	142	313	7.6
SIRACUSA	68	161	864	1,025	15.1
TRAPANI	31	104	248	352	11.4
REGIONAL TOTAL	762	1,801	6,815	8,616	11.3

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SARDINIA

		TOTAL FORESTED AREA (HA)		STATISTIC ERROR (%)
THE TERRITORY				
TERRITORIAL AREA (HA)	2,408,989	CAGLIARI	331,593	3.0
FOREST DENSITY INDEX %	50.36	NUORO	422,772	2.5
PROTECTED AREA (HA)	92,669	ORISTANO	95,643	6.0
WILDFIRES IN PROTECTED AREAS %	3.8	SASSARI	363,242	2.8
		TOTAL	1,213,250	

PERIOD 2006-2008

PROVINCE	NUMBER OF FIRES			WOODLAND (HA)			NON-WOODLAND (HA)		
	2006	2007	2008	2006	2007	2008	2006	2007	2008
CAGLIARI	196	304	209	194	2,647	650	268	5,622	422
NUORO	275	434	255	743	8,001	425	995	5,973	885
ORISTANO	52	124	96	62	359	418	92	2,851	803
SASSARI	157	235	163	904	1,206	274	1,154	1,902	250
TOTAL	680	1,097	723	1,903	12,213	1,767	2,509	16,348	2,360

FIRES 2009

PROVINCE	NUMBER	SURFACE AREA AFFECTED BY FIRE (HA)			
		WOODLAND	NON-WOODLAND	TOTAL	AVERAGE
CAGLIARI	116	1,036	1,595	2,631	22.7
CARBONIA - IGLESIAS	93	716	482	1,198	12.9
MEDIO CAMPIDANO	55	86	396	482	8.8
NUORO	116	1,351	2,098	3,449	29.7
OGLIASTRA	88	65	18	83	0.9
OLBIA - TEMPIO	85	2,188	1,169	3,357	39.5
ORISTANO	59	3,383	4,885	8,268	140.1
SASSARI	72	3,445	14,191	17,636	244.9
REGIONAL TOTAL	684	12,270	24,834	37,104	54.2

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