

FOREST FIRE NEWSLETTER

Vol.I No.1 - January 1988

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The Forest Fire Newsletter is prepared on behalf of the ECE/FAO Agriculture and Timber Division. Copies are available on request from:

ECE/FAO Agriculture and
Timber Division
Palais des Nations
CH - 1211 GENEVA 10

The Newsletter is edited by:

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News contributions are welcome



The logo of the Forest Fire Newsletter shows a tree as the symbol of the world's forests endangered by fire. The five leaves of the tree represent the five continents which are linked by the common will to overcome the wildfire threat to forests - one of the world's most valuable resources

EDITORIAL

It was early in 1983 that the idea of a European Forest Fire Newsletter came up at the first meeting of the ECE/FAO Team of Specialists on Forest Fire Prevention and Control, at Freiburg University, Federal Republic of Germany. The concept of a forest fire information vehicle then lay dormant until the ECE/FAO/ILO Seminar on Methods and Equipment for the Prevention of Forest Fire was held in Valencia (Spain) in September 1986. One outcome of this seminar was a recommendation to prepare this Newsletter on an experimental basis.

Why is such a Forest Fire Newsletter needed? The answer has to be sought in a changing environment threatening the world's forest resources. The world is facing growing and complex environmental problems, such as forest decline in Europe, deterioration of lakes in Scandinavia and North America, climatic impact of deforestation in the tropics, desertification, and a growing level of atmospheric pollutants.

The role of forest fires - or wildland fires and biomass burning in general - in global ecological processes is often greatly underestimated or even neglected altogether.

In Europe, the Mediterranean countries are the ones facing the most serious fire problem. More than half a million hectares of land are burnt on average each year. In the temperate and boreal zone of North America and Eurasia, forest fires devastate several million hectares annually. No exact information is available on the tropics and subtropics because most of the wildfires are not monitored or reported. Fires used for land clearing and shifting cultivation have an increasing impact on tropical and subtropical forest development.

As a rough estimate it can be assumed that 40 to 50 million hectares of forest land are affected by fire each year. In addition, the burning of savanna and grassland amounts to approximately another 600 million hectares annually.

In both developing and industrialized countries increasing fire problems are visible at the wildland/residential interface. Increasing urbanization poses a considerable threat to human life and property.

The public is becoming increasingly alarmed by the fact that worldwide forest depletion and biomass burning may contribute considerably to global climatic change. The increasing demand for reliable information and action is a challenge to both governments and the international community of scientists and managers.

This Forest Fire Newsletter is planned as a half-yearly publication providing a vehicle for the exchange of information on wildland fire management and sciences. The Newsletter gives brief information about what is going on with respect to recent fire-related development in various countries, fire management programmes, co-operation, recent and forthcoming meetings and publications. Short reports provided by government bodies or individual scientists and managers are given, together with bibliographical sources and contact addresses.

Distribution of the Newsletter will not be restricted to the ECE countries (Europe, the USSR, North America): the information should be shared with other regions, especially with the developing countries.

Johann G. Goldammer

COUNTRY NOTES

FRANCE

New regulations on forest fire prevention and control.

The Interministerial Council in 1986 and the Interagency meeting on 29 January 1987 made several decisions concerning the protection of Mediterranean forests:

- The Prefect, Commissary of the Region Provence-Alpes-Côte d'Azur, is designated as coordinator of all fire prevention and control activity in the 15 departments of south-east France
- Creation of a Mediterranean Forest Advisory Council
- Creation of the Mediterranean Forest Conservatory funded by a budget of 100 million francs.

In a circular dated 22 January 1987 the Minister of Agriculture defined the activities eligible for funding by the Conservatory:

- Public education and information
- Reduction of accidental fire sources
- Forest fire surveillance
- Equipment for forest fire prevention and control
- Rural planning.

This programme became operational in 1987.

New multiple-use vehicles for forest fire surveillance and control

As experience shows that it is the local forester who knows his area of responsibility best, a new concept of security service has been introduced in the departments of Alpes-Maritimes and Bouches-du-Rhône. When the plan to increase the number of vehicles and the mobility of foresters came into effect, a vehicle for combined ground patrol and initial intervention was developed. The vehicle consists of a 4-wheel drive pick-up with a 600 litre tank and high pressure pump.

Each of the highly flexible ground patrols operated by the local foresters may cover a territory of about 5 000 ha with up to 4 000 ha of forest land. In most missions the patrols have been able to respond quickly - the average intervention time was 4 minutes. In half of the fire incidents, with airborne support the patrol units were able to stop the fire. In 25 % of cases the fires were contained until the arrival of additional suppression forces.

Direction de l'Espace rural
et de la Forêt
Ministère de l'Agriculture
78, Rue de Varenne
F - 75700 PARIS

FEDERAL REPUBLIC OF GERMANY

25 years of aerial forest fire detection

The air wing of the volunteer fire brigades in the State of Lower Saxony recently celebrated its 25th anniversary. The ceremony was held under the auspices of the Ministry of the Interior and the State Forest Service as co-sponsoring agencies. The air service consists of two Cessna 172 aircraft which are manned with two aerial observers from the State Forest Service and the voluntary fire service. The aircraft are used mainly for forest fire detection. The aerial reconnaissance facilities are also used to dispatch and lead initial attack forces.

State Forest Service sponsors' purchase of ground tankers

Between 1975 and 1986 the municipal fire brigades of Lower Saxony were equipped with 160 new ground tankers. A total of 51 tankers were co-sponsored by the State Forest Service. Special support was given to a new off-road 4-wheel drive vehicle version with a 1 800 litre tank and booster reel.

Improvement of on-site water supply

The improvement of water availability in high-risk zones is considered one of the most important fire prevention measures. The Lower Saxony State Forest Service therefore purchased 30 used fuel tanks with volumes of between 20 and 100 m3. These tanks are imbedded in the ground and serve as water reservoirs in the vicinity of the most endangered pine plantations.

Peter Lex
Kirchweg 2a
D - 2126 ADENDORF

ITALY

Forest fire danger index introduced

Within the framework of the forest fire prevention action plan, a fire danger index has been introduced in Apulia, the region most affected by fire. The fire danger rating index follows the FAO-UNESCO system and is broadcast daily by the Air Force Meteo Service.

If the meteorological index exceeds the value of 24, the Provincial Forest Inspectorate is authorized by the President of the Regional Administration to:

- Stop agricultural burning
- Prohibit fireworks
- Alert the Civil Protection Organization, the Prefecture and the Army.

Warning has to be given of large-scale military manoeuvres.

Vittorio Leone
Faculty of Agriculture
Via Nazario Sauro 85
I - 85100 POTENZA

NORWAY

Firefighting training in Northern Europe

Large-scale forest fires seldom occur in the coniferous region of Scandinavia. The dry spells of 1975-76, however, created considerable wildland fire problems. They have shown the need to be prepared to face extreme fire situations.

In Norway, forest firefighting is part of the Fire Protection Organization under the responsibility of the municipalities. In the last five years steps have been taken to improve fire suppression standards by:

- Co-operation between the municipalities
- Organization of common training courses.

The County of Hedmark is a good example. The 22 municipalities have elected a group of 5 persons to be responsible for the yearly organization of fire-training courses. The group prepares a two-day training course. Each municipality participates with 3 to 5 delegates, mostly officers from the public Fire Protection Organization and the Forest Service. Classroom training consists of basic topics on forest conditions and fire risk, fire control organization and fire suppression systems and resources. The practical training component includes the use of equipment (ground and airborne) during a demonstration in a real "hot" fire situation.

Gunleik Kaafjeld
Skogsbruksetaten
P.O.Box 57
N - 2401 ELVERUM

SPAIN

New co-operation agreement between the Ministries of Agriculture and Defence on airborne firefighting

After the 1986 forest fire season in Spain had left 284 450 ha of blackened land - including 133 645 ha of forest - a concerted action plan called "National Defense Programme against Forest Fires" was initiated. Public education and propaganda campaigns on the one hand, and enhanced fuel management programmes on the other, are the major activities in fire prevention.

Starting in 1987, forest fire control capabilities were improved by optimizing the utilization of available resources. The Ministry of Agriculture, Fisheries and Food and the Ministry of Defence thus agreed to increase co-operative efforts in airborne forest fire control. Ongoing co-operation between the two agencies dates back to 1971; it was designed to operate amphibious waterbombers. The new agreement of 1986 also includes the helicopters of the Armed Forces. The total airborne fire control capacity for the 1987 fire season consisted of 73 aircraft and 46 bases as shown below:

<u>Participating agencies</u>	<u>Number of bases</u>	<u>Types of aircraft</u>
43th Air Force Group	6	14 Canadair CL-215
Army Air Wing	10	8 UH-1H plus 2 ICONA helicopters

Navy	4	2 Augusta Bell 212 2 Hughes 500
Air Force	2	1 UH-1H 1 Super Puma
Contractors' fixed wing aircraft	15	30 aircraft with 1.5 - 1.8 t capacity 4 fire detection planes
Contractors' helicopters	9	9 helicopters

The helicopters are used mainly for the deployment of initial intervention crews of 6 to 19 firefighters. The National Institute of Nature Conservation (ICONA) invested more than 5 billion pesetas in the National Fire Defence Programme in fiscal year 1987. This included the purchase of four new helicopters and two more Canadair CL-215 planes.

Ricardo Vélez
ICONA, Sección de Incendios
Forestales
Gran Via de San Francisco 35
E - 28005 MADRID

SYRIA

Prescribed burning programme underway

Syria is extending its prescribed burning programme for forest fire hazard reduction. This method which has been widely developed and practised in North America and Australia is becoming increasingly operational in other countries. In Syria the most endangered forest stands in the vicinity of structures, camping sites and thoroughfares are underburnt annually. The most hazardous and flash fuels (shed needles, leaves and branches, undergrowth) are treated by prescribed fire during the early dry season. It can be expected that this fuel treatment will greatly reduce the wildfire risk at the wildland/residential interface.

Girgis Kadah
Arab Forestry Institute
P.O.Box 142
SYR - LATTAKIA

TURKEY

Forest fire seminar held in Mugla-Marmaris

A seminar on "Protection of the Turkish Forest from Fire" was held in Mugla-Marmaris from 4 to 8 May 1987. The meeting was organized and co-sponsored by the General Directorate of Forests and the Forestry Faculty of Istanbul University. The seminar was attended by academic staff of the faculty and executive administration staff of the General Directorate from the whole country. Besides field demonstrations, papers were presented on the following main topics:

- Basic fire protection problems
- Fire danger rating
- Preventive measures (silviculture, fuel management)
- Public education
- Fire detection, communication, transport
- Law enforcement, organizational matters
- Forest fire research.

Further information of the results of the seminar may be obtained from:

Onder Piyade
General Directorate of Forests
Baskanligi Gazi
TR - ANKARA

UNITED KINGDOM

Silvopastoral practices reduce fire hazard

Late spring (May and early June) is the most hazardous forest fire period in Scotland. Hill grasses have not started to regrow and in all of the younger forests there is a thick mat of dead vegetation. Normally this is the driest time of the year. To make matters worse it has been the practice of sheep farmers to burn off this unpalatable vegetation to encourage new growth; this is the major cause of forest fires.

To combat this problem in a vulnerable area comprising 2 000 ha of young forest stands near Edinburgh, the owners persuaded a tenant farmer to graze his sheep through the forest. The trees must be over 1 m high and the numbers of sheep have to be strictly controlled. After 12 years of practice, continued with regular fire patrols, the forest owner has reduced the annual burnt area from 10 ha to 10 trees.

David Goss
Consultant
P.O.Box 25
GB - DUMFRIES DG2 0SQ

"Flexible" forest firefighting unit

Custom-built firefighting vehicles have the drawbacks of high cost, limited flexibility and in the case of trailer units, poor terrain capability. Designed to overcome these drawbacks, the "Flexible Unit" offers a low cost method of foam or water firefighting. Foam can be produced from a pre-mix in the tank (500 l) or straight from the foam branch pipe which has a 2 l replenishable concentrate bottle. Pre-mixing is possible as there are no voids in the tank when empty and this prevents foaming as the tank is filled.

The tank is the key to the unit's adaptability as it is strong, flexible, takes up very little space when empty, and can easily be stored, allowing the carrying vehicle to be used for other duties. The tank can transport or store a range of liquids, and therefore its use is not limited to firefighting. The

unit can be carried by a wide range of vehicles, by car when empty, or by any vehicle of adequate carrying capacity when filled with liquid. The tank can also be carried underslung from a helicopter.

B.K. Jones
Forestry Commission
Work Study Branch
Corstorphine Road 231
GB - EDINBURGH EH12 7AT

EUROPEAN ECONOMIC COMMUNITY (EEC)

With Council Regulation (EEC) No. 3529/86 of 17 November 1986 the Council of the European Communities responded to the serious fire damage in the forests of the Community. Stating that the protection of forests against fire is a matter of particular importance and urgency, the Council adopted through this regulation the establishment of a Community scheme covering the following preventive measures:

- encouragement for forestry operations designed to reduce fire risk;
- encouragement for the purchase of brush-clearance equipment where indispensable;
- provision of forest roads, fire belts and water supplies;
- installation of fixed or mobile look-out structures;
- organization of information campaigns;
- assistance in establishing interdisciplinary data-gathering centres; and
- assistance for subsequent analytical surveys of the data gathered.

These measures are supplemented by the following:

- encouragement for the training of highly specialized personnel;
- encouragement for the harmonization of techniques and equipment;
- coordination of the research necessary for implementing the measures referred to in the first and second indents.

The duration of the scheme is five years as from 1 January 1987. The Community financial contribution to forest fire programmes of Member States will cover a maximum of 30 % of the expenditure approved by the Commission. Further information and the full text of the Council Regulation can be obtained from:

Roland Troigros
Commission des Communautés
européennes
Direction générale de
l'Agriculture "Forêts et
Sylviculture", VI/F.I.4
Rue de la Loi 86
B - 1040 BRUXELLES

RECENT AND FORTHCOMING PUBLICATIONS

YUGOSLAVIA: New book on "Principles of Forest Fire Protection"

A thorough study of the increasing occurrence of forest fires in Yugoslavia is now available. Under the title "Principles of Forest Fire Protection" a group of authors investigated the ecological background of the fire scenario, the causes of the fires and the preventive and control measures. The book contains detailed investigations and descriptions of the interactions between fire and geomorphology, climate, phytobio-climate, site and vegetation. Special attention is given to conditions in the Dinaric Karst. Furthermore, characteristics of the meteorological elements and fire danger rating systems are described. This is the first time that a study on the fire climate regions of Yugoslavia has been published. Methods and organization of forest fire prevention and control are extensively described in this book which is published in Serbo-Croat (340 p.). The book is available from:

Centar za Informacije i
Publicitet
Miramarska 15 a
YU - 41000 ZAGREB

UNITED STATES: Wildfire strikes home!

The wildland/urban interface is the point where two diverse systems - the wildland and the residential - meet and affect each other. The wildland/urban fire problem poses serious risks to life, property and natural resources. A special publication "Wildfire strikes home!" was prepared to focus attention on a problem which is increasing in North America and in many other countries worldwide.

In addition to this 96-page report of the first "National Wildland/Urban Fire Protection Conference" a "Wildfire Strikes Home Newsletter" is now available. In 1987 the first four issues were disseminated. These publications are sponsored by the National Fire Protection Association, the US Forest Service, the US Fire Administration, the US Department of the Interior and the National Association of State Foresters.

Copies of the report (US\$ 4.- for postage and handling) and future editions of the newsletter may be obtained from:

Gary Tokle
National Fire Protection
Association
Batterymarch Park
USA - QUINCY, MA 02269

SPAIN: Increase of water runoff after forest fires

Public opinion considers that, among other causes, wildfires are responsible for the catastrophic effects of the heavy autumn rains which, as in many other years, occurred on the Mediterranean coast of the Iberian Peninsula in 1987. A recent study on a small watershed in the Mediterranean coastal mountains of Andalusia supports this argument: in relation to

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precipitation, both overall water yield and runoff peaks showed a marked increase immediately after fire. However, about 8 to 10 years after the fire impact both parameters reverted to their former values, while the vegetation - a Mediterranean dwarf scrub-heath in regeneration stage - still differs considerably from the former pine forest cover. The results of the study were presented and published by:

Thomas May
Efectos hidrológicos de
incendios en la cuenca alta
del Rio Verde de Almunecar
(Provincia de Granada).
Hidrologia y Recursos
Hidraulicos XII. IV Simposio
de Hidrogeologia, Palma de
Mallorca, 5-9 Oct. 1987,
pp. 405-417

ECE/FAO: Forest fire statistics

The Joint FAO/ECE Working Party on Forest Economics and Statistics (under the parent bodies of the ECE Timber Committee and the FAO European Forestry Commission) carries out enquiries on forest fire statistics at two-yearly intervals. The 4th edition covering the years up to 1986 will be published in April 1988 and will be available from:

ECE/FAO Agriculture and
Timber Division
Palais des Nations
CH - 1211 GENEVE 10

FAO/ECE/ILO: Proceedings of a seminar on forest fire prevention

In 1986 the Joint FAO/ECE/ILO Committee on Forest Working Techniques and Training of Forest Workers sponsored a "Seminar on Methods and Equipment for the Prevention of Forest Fires". The meeting was held in Valencia (Spain) from 30 September to 4 October 1986. A broad variety of papers - mainly from European countries and North Africa - dealing with different aspects of fire prevention (fire danger appraisal, silvicultural methods, public information and education, legislation, safety and training) were presented. The proceedings of the seminar are under preparation and will be available early in 1988 from:

Ricardo Vélez
ICONA - Sección de Incendios
Forestales
Gran Vía de San Francisco 35
E - 28005 MADRID

FAO: Wildland fire management terminology

A new multilingual forest fire terminology has been published by FAO. With this publication a reasonably complete glossary of terms in current usage, with widely accepted definitions, is now available. The definitions are given in English and the corresponding terms are given in Spanish, Italian, German and French. The terminology is published as FAO Forestry Paper 70 and can be purchased locally through the authorized FAO sales agents or directly from:

FAO, Distribution and
Sales Section
Via delle Terme di Caracalla
I - 00100 ROME

CANADA: Revised glossary on forest fire management terms

The 4th edition of the Canadian Glossary of Forest Fire Management Terms was issued in 1987 by the National Research Council, Canadian Committee on Forest Fire Management. The Glossary is available in English (NRCC No. 26516) and French (NRCC No. 26517) and can be obtained (Canadian \$ 2,50 per copy) from:

Public Sales and
Distribution Office
National Research Council
CDN - OTTAWA, Ontario K1A 0R6

MEETINGS HELD IN 1987

UNESCO/GREECE: International symposium on forest fires in the Mediterranean Region

Following the FAO/ECE/ILO seminar in Valencia in September 1986, another international conference focussed attention on the severe forest fire problem in the Mediterranean region. Under its working title "International Symposium for the Formulation of an Effective Common Strategy in the Mediterranean Region" the meeting, held in Athens, 8-13 April 1987, was sponsored by the Greek National Commission for UNESCO and the Greek Ministry of Agriculture. Representatives of international organizations, governments and non-governmental organizations as well as individual experts drew up programmes and proposals for joint efforts in solving the Mediterranean fire crisis. For more information on the results of the meeting contact:

Greek National Commission
for UNESCO
Acadimias 3
GR - 10671 ATHENS

UNITED STATES: Two fire meetings held in tandem

9th Conference on Fire and Forest Meteorology

The ninth of a series of conferences jointly sponsored by the American Meteorological Society and the Society of American Foresters was held in San Diego, California, 21-24 April 1987. The purpose of the conference was to exchange research and management information relevant to both wildland fire specialists and forest meteorologists and covered a variety of aspects on:

- Acid deposition, smoke management
- Fire behaviour, fire weather forecasting
- Prescribed burning, fire ecology
- Climatic change (tropical deforestation, nuclear winter).

The conference proceedings are under preparation by:

American Meteorological
Society
45 Beacon Street
USA - BOSTON, MA 02108

Wildland Fire 2000

During the week following the 9th Conference on fire and forest Meteorology, the Seminar "Wildland Fire 2000" was held in Stanford Sierra Camp, Lake Tahoe, California, 27-30 April 1987. This meeting was co-sponsored by the University of California and various US agencies and the International Union of Forestry Research Organizations (IUFRO). Wildland Fire 2000 was designed to address the possible, preferred and probable status of wildland fire into the year 2000 and beyond. Various contributions covered community needs, management and research responses and international issues. In

separate sessions, small groups of participants identified wildland fire trends and developed scenarios, together with the actions required to cope with those scenarios. The seminar proceedings were published in November 1987.

USDA Forest Service 1987:
Wildland Fire 2000
Symposium Proceedings
USDA Forest Service General
Technical Report PSW-101,
258 p

Protecting People and Homes from Wildfire

This Workshop & Symposium was held in Missoula, Montana, 6-8 October 1987. It focussed on the escalating problem of wildfires in wildland residential areas throughout the Interior West of the United States. Because of a major population shift from urban to rural living, more homes are built on forest and wildland sites - intermingled with highly flammable native vegetation.

Since the fire problems on the wildland/residential interface are increasing similarly in other countries, the papers given at the Symposium & Workshop may be of high interest for officials and researchers outside North America. The proceedings will be published as a US Forest Service Intermountain Research Station General Technical Report. For more information contact:

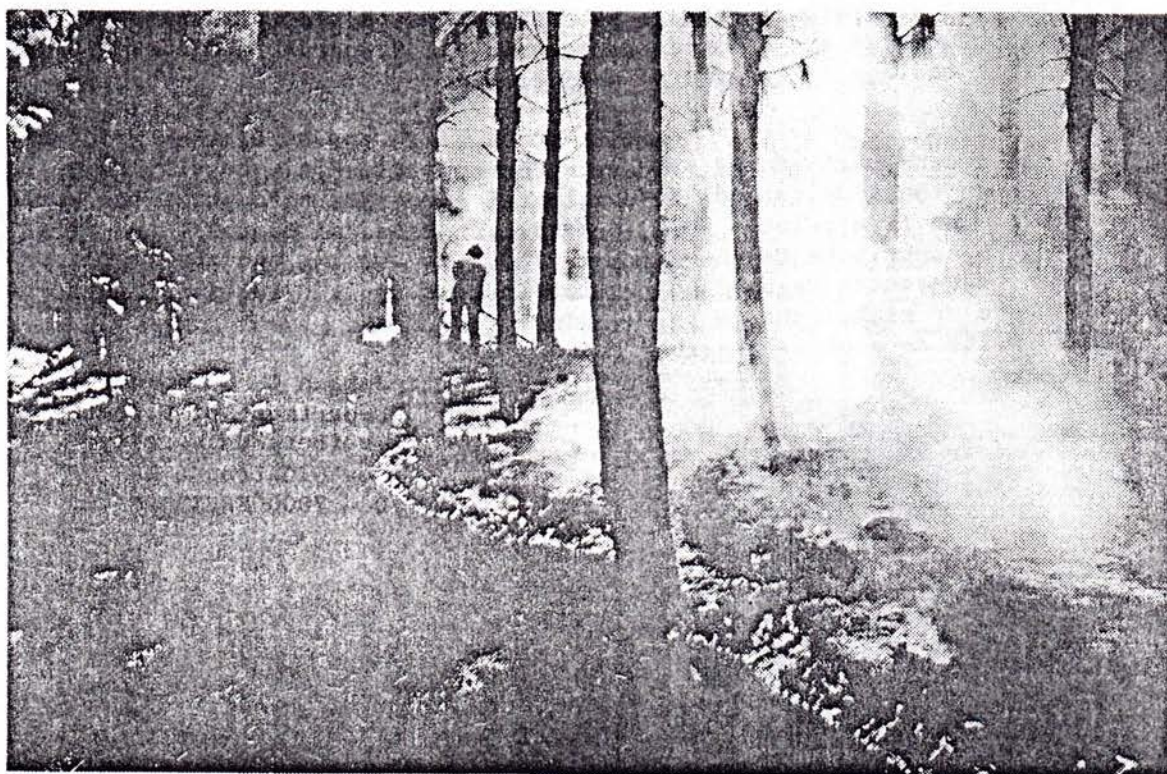
USDA Forest Service
Intermountain Fire Sciences
Laboratory
P.O.Box 8089
USA - MISSOULA, MT 59807

MEETINGS PLANNED FOR 1988

FRANCE: Prescribed Burning Workshop

As announced at the FAO/ECE/ILO/IUFRO meeting in Valencia (Spain), a Workshop on prescribed burning will be held in Avignon, 14-18 March 1988. Organized by the Forest Research Station of Avignon (INRA), this Workshop is part of the activities of Silva Mediterranea (FAO) and will have IUFRO participation. It is intended for scientists working on prescribed burning, and foresters - particularly those from Mediterranean countries - using or wishing to use this technique. Further information from:

Jean-Charles Valette
INRA - Sylviculture
Avenue Antonio Vivaldi
F - 84000 AVIGNON



Forest fire hazard reduction by prescribed burning. The INRA Workshop in Avignon, 14-18 March 1988, will focus on this technique which is being increasingly used in many countries and vegetation types.

MEETINGS PLANNED FOR 1989

CANADA: 10th Conference on Fire and Forest Meteorology

The 10th of a series of conferences at two-yearly intervals will be held in Ottawa, April 1989 (see also "Meetings held in 1987"). Scientists who wish to be put on the mailing list for the announcement of the conference should contact:

Roger Street
Canadian Climate Centre
Atmospheric Environment
Service
4905 Dufferin Street
CDN - DOWNSVIEW
Ontario M3H 5T4

FEDERAL REPUBLIC OF GERMANY: 3rd International Symposium on Fire Ecology

The third of a series of fire ecology symposia at six-yearly intervals will be held at Freiburg University, 16-18 May 1989. Fire scientists from European countries are invited to present papers on fire-wildland interactions or on fire ecology in general in Mediterranean, temperate and boreal biota of Europe.

The second part of the symposium focusses on the escalating wildland fire problems in the tropics and the developing countries in general. Scientists who have done fire-related work in tropical countries throughout the world are invited to contribute to the session "Fire in Tropical Biota" - the first of its kind. Research related to tropical biomass burning and its impact on the atmosphere or global change is included in this topic. Potential authors should write as soon as possible to:



Johann G. Goldammer
Department of Forestry
Freiburg University
Bertoldstrasse 17
D - 7800 FREIBURG

Tropical forest and wildland is becoming increasingly affected by land clearing fires and escaped slash-and-burn agricultural fires. The gases emitted by biomass burning on 40 million hectares of forest land and 600 million hectares of grasslands and savannas may have a severe impact on atmospheric pollution and climatic change. The session on "Fire in Tropical Biota" will focus on these environmental interactions. Freiburg University, May 1989.

UNITED STATES: International Meeting on Wildland Fire Challenges

Shortly after the Freiburg Symposium where the ecological fire - wildland interactions will be discussed, another conference will focus on the global fire problem - "Meeting Global Wildland Fire Challenges: The People, the Land, the Resources", 24-26 July 1989, Boston, Massachusetts.

Over the past few years, fires have occurred on an increasing scale in all parts of the world. To assess the magnitude of wildfire management problems, heighten awareness and increase mutual co-operation and communication, the US Forest Service has joined forces with the Canadian Forest Service and the National Fire Protection Association in sponsoring this meeting. The conference is expected to draw participants from around the world, providing a genuine opportunity for the exchange of ideas, recommendations and solutions.

Registration materials will not be available until early 1988. Those interested in being put on the information mailing list may contact:

Gary Tokle
National Fire Protection
Association
Batterymarch Park
USA - QUINCY, MA 02269

FAO: Forest Fire Management Training Course

At the FAO/ECE/ILO Forest Fire Seminar in Valencia, September 1986, it was recognized that the countries of North Africa and the Near East should be more actively involved in forest fire management development than had been the case in the past. Training was identified as the most effective means of transferring technology to these countries. As a consequence, FAO is planning to carry out a training course for forest fire management instructors during the early spring or late autumn of 1989. The venue will be either one of the North African countries or possibly Crete at the CIHEAM (Institute of Mediterranean Agriculture, Chania) training facilities. The course will be intended for the instructor level and will focus on prevention, detection and combat of fires under Mediterranean conditions. About 15 participants in each language group will undergo 6 days' intensive training, and afterwards participate in a 10-day study tour to Italy, France and Spain. Present budgetary restrictions will allow for only one language group. For more information correspondence should be addressed to:

Jan Troensegaard
Senior Forestry Officer, FORM
Food and Agriculture
Organization
Via delle Terme di Caracalla
I - 00100 ROME

AFC/EFC/NEFC: Silva Mediterranea

The 14th session of the African/European/Near East Forestry Commissions' Committee on Mediterranean Forestry Questions "Silva Mediterranea" will be held in Greece, September/October 1989. The results and recommendations on fire-related questions discussed during the meeting will be published in this newsletter.

NEWS FROM FAO/ECE/ILO

Team of Specialists on Forest Fire reactivated

The Steering Committee of the Joint FAO/ECE/ILO Committee on Forest Working Techniques and Training of Forest Workers considered the conclusions of the Valencia Seminar of 1986 (see above) and reactivated the Team of Specialists on Forest Fire with the following terms of reference:

- to concentrate on prevention aspects (silvicultural methods, fuel management, wildland/agricultural interface, equipment, public information and education, legislation);
- to participate in the Symposium on Fire Ecology to be held in Freiburg in May 1989 and to prepare a future FAO/ECE/ILO seminar in the early 1990s;
- to ensure co-operation/coordination of activities with Silva Mediterranea, the EEC, IUFRO and other organizations;
- to review the trial issue on the Forest Fire Newsletter.

The Steering Committee and the Italian authorities agreed to appoint Mr. Giancarlo Calabri as team leader. He will be joined by the experts appointed by other countries. The addresses of the team members appointed by end of 1987 are given below:

Giancarlo Calabri
Chief, Forest Fire Service
Ministero dell'Agricoltura
e delle Foreste
Via Carducci 5
I - 00187 ROME

Johann G. Goldammer
(see above)

Tytus Karlikowski
Forest Research Institute
ul. Wery Kostszewy 3
PL - 00973 WARSAW

Other countries that have been invited to nominate members to the team of specialists are: Canada, France, Finland, Greece, Italy, Portugal, Spain and the United States.

NEWS FROM IUFRO

The structure of the International Union of Forestry Research Organizations (IUFRO) consists of divisions, research groups and working parties. The group "S 1.09 Forest Fire Research" belongs to Division I "Forest Environment and Silviculture". The group has recently been reactivated and has co-sponsored a variety of meetings in Poland, Federal Republic of Germany, France, Spain and the United States. During the 18th IUFRO World Congress in Yugoslavia in 1986, a joint programme with "S 5.03-4 Wood Structures" on Urban/Structural/Wildland Fire was conducted. It is

planned to have a major group meeting and an excursion at the 19th World Congress which will take place in Montreal (Canada), 5-11 August 1990. For further information on the research group, the chairman and co-chairman may be contacted:

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THE FOREST FIRE SEASON 1986 AND 1987

The 1986 forest fire season was another bad year for southern Europe. According to preliminary ECE/FAO fire statistics, more than 570 000 ha of forest and other land were affected by wildfires. Six Mediterranean countries (France, Greece, Italy, Portugal, Spain, Turkey) shared the misfortune of 98 % of the total area burnt in 19 countries. Detailed figures are given in Table 1.

Complete data for 1987 are not yet available. Overall fire weather in northern and central Europe was generally moderate due to extensive rainfall throughout the summer. The south, however, faced severe fire problems. Preliminary data received from Italy and Spain show once more that the Mediterranean fire problem is a continuing one, mainly due to an unfortunately high amount of arson accidents (Table 2).

In Spain, the number of fires was higher than in 1986 but the area burnt was only 48 % of the 1986 figure. According to the interpretation of ICONA's Forest Fire Service, this decrease in burnt area is due to the greater number of both airbases and firefighting aircraft available (see country report).

The worst fire in Greece occurred on the Island of Rhodes where 4 533 ha of forest and 4 336 ha of wooded land were burnt; another 3 177 ha of rangeland were also blackened. The total area burnt in Greece by about 1 300 single wildfires amounts to an estimated 12 300 ha of forest, 18 000 ha of wooded land and 8 500 ha of rangeland. In addition a considerable area of agricultural land was burnt.

One of the worst fires in France occurred in late August near Cannes and St. Raphaël. Within two days more than 2 275 ha of forest land were burnt.

Outside of Europe, the temperate and boreal zone of the northern hemisphere - particularly North America and North Asia - was characterized by little precipitation and low snow packs in the 1986-87 winter. The most severe spring fires were reported from China and the USSR. A major fire disaster which struck the Heilongjiang Province of north-east China in May raged over 1 million ha of land, 70 % of which was forest. In addition to the death toll of nearly 200, the fires seriously injured 226 people and necessitated the evacuation of some 60 000. According to reports received by UNDRO (United Nations Disaster Relief Organization) spontaneous aid in funds, relief and firefighting materials from international organizations were rushed to China; the value totalled approximately US\$ 5.5 million; about the same amount of funds was provided by the Federal Republic of Germany for restoration of the damaged land.

In the USSR large fires went out of control in eastern Mongolia were almost comparable with the fire disaster in China. According to "Soviet Weekly" more than 700 wildfires raged for several months in southern Siberia, east of Lake Baikal. Exact information on the area affected by fire is not yet available.

In North America the forest fire problem of 1987 was also serious. In Canada more than 10 200 fires devastated about 1 million ha of national forest land during the 1987 fire season.

The west of the United States, which was affected by a prolonged drought faced the most severe fire situation since 1929 on national forest system lands. In California and south-west Oregon more than 11 345 lightning strikes occurred between 30 August and 5 September igniting over 1 500 fires. The ignition ratio of one fire per seven lightning strikes exceeded any ratio previously experienced. More than 338 000 ha of land were burnt in California and Oregon alone. Extensive forest fire damage also occurred in southern forests during the fall. As of 4 October 1987 the total number of fires recorded in the United States was 55 643 on 836 000 ha of land.

In Central and South America large-scale fires were reported from Guatemala, Argentina and Brazil. Especially dry conditions in southern Argentina in early 1987 established a severe wildfire situation along the foothills of the Andes between 35° and 42° south latitude. During this emergency Argentina received help from neighbouring Chile and by experts sent by the U.S. Foreign Disaster Assistance Office.

South Asia between the subcontinent of India and insular Southeast Asia was also struck by an extreme drought wave which caused considerable problems for agriculture, forestry and basic needs in water and food supply. The southeastern part of Asia was mainly affected by the "El Nino" drought cycle, the worst after the 1982-83 dry spell which left more than 5 million hectares burnt on Borneo at that time. Again in 1987, the major problems were reported from Borneo. The smoke of wildland fires forced the closure of airports in various parts of the Indonesian and the Malaysian part of Borneo, and even coastal navigation was temporarily affected. Even Fiji caught world attention in August when arsonists set fire to some 4 500 ha of pine plantations.

Table 1

Number of fires and area of forest and other land burnt in
Europe and North America in 1986

COUNTRY	NUMBER OF FIRES	AREA BURNT (HA)
Belgium	5	29
Bulgaria	68	354
Cyprus	50	1 650
Czechoslovakia	538	726
Denmark	10	6
Finland	717	367
France	5 000	50 000
Germany, Federal Republic of	618	293
Greece	1 210	23 286
Hungary	576	1 810
Ireland	490	713
Israel	600	525
Italy	9 387	86 407
Netherlands	120	279
Poland	2 766	3 382
Portugal	4 437	108 500
Spain	7 713	284 450
Switzerland	76	63
Turkey	1 528	11 296
EUROPE (19 countries)	35 956	574 136
Canada	7 311	921 329
United States	138 696	1 291 448
TOTAL NORTH AMERICA	146 007	2 212 777

No information was available from Austria, German Democratic Republic, Luxembourg, Norway, Romania, Sweden, United Kingdom, Yugoslavia. The data for the United States refer to protected land only. The data for Canada are taken from the 1987 fire summary and refer to national forests only.

Table 2

Preliminary data of the 1987 forest fire season in Italy and Spain

COUNTRY	NUMBER OF FIRES	AREA SWEEPED BY FIRE (HA)		
		FORESTS	OTHER LAND	TOTAL
Italy	11 823	48 391	73 388	121 797
Spain	8 316	48 512	88 480	136 992

Source: Country reports.

A L'ATTENTION DES LECTEURS

Veuillez prendre connaissance du numéro expérimental du Bulletin sur les incendies de forêt, puis remplir et renvoyer le questionnaire ci-dessous. Vos observations, que nous souhaitons le plus franches possible, garderont un caractère confidentiel et nous aideront à décider si nous devons ou pas continuer à publier régulièrement un tel Bulletin et si sa forme actuelle convient.

MERCI D'AVANCE POUR VOTRE PRECIEUSE COOPERATION.

BULLETIN SUR LES INCENDIES DE FORET - QUESTIONNAIRE

Veuillez remplir et renvoyer ce questionnaire, accompagné de toute documentation que vous jugez utile, à : Division de l'Agriculture et du Bois CEE/FAO, Palais des Nations, CH - 1211 GENEVE (Suisse).

Nom :

Adresse :

Général

- Un Bulletin sur les incendies de forêt est une bonne initiative. OUI/NON*
- Ce numéro expérimental répond aux besoins d'un tel Bulletin. OUI/NON*
- Dans la NEGATIVE, en voici les raisons

LANGUE

Etant donné les restrictions budgétaires de la CEE/FAO faut-il envisager de publier ce Bulletin dans d'autres langues?

- La version anglaise suffit. OUI/NON*
- Dans la négative, je propose une version dans les langues suivantes :
- Serait-il possible de le faire traduire dans votre pays? OUI/NON*

PRESENTATION

- La présentation du numéro expérimental me convient. OUI/NON*
- Elle est TROP LONGUE/TROP COURTE*
- Je préfère lire davantage d'articles détaillés plutôt que des notes succinctes avec en référence une adresse/des renseignements. OUI/NON*

ILLUSTRATIONS

- Des photos ou des illustrations sont nécessaires. OUI/NON*

INFORMATIONS COMMERCIALES

- Des renseignements sur le matériel, la documentation et autres de la part des fabricants/compagnies d'assurance devraient figurer. OUI/NON*
- Des annonces commerciales devraient être utilisées pour obtenir des fonds visant à améliorer l'impression/la qualité des illustrations. OUI/NON*

COURRIER A L'EDITEUR - AUTRES SUGGESTIONS

- Le courrier à l'éditeur devrait être inclus. OUI/NON*
- Je joins un article d'environ une demi-page pour le prochain Bulletin. OUI/NON*
- J'aimerais que mon nom figure sur la liste de distribution. OUI/NON*
- Je joins des adresses à inclure dans cette liste. OUI/NON*

(*) Rayer la mention inutile.