





## 4<sup>th</sup> International Wildland Fire Conference

### Posters Presented by 14 Regional Wildland Fire Networks<sup>1</sup>



# The Global Wildland Fire Network

United Nations International Strategy for Disaster Reduction (UNISDR)



## The UNISDR Global Wildland Fire Network (GWFN) and the Wildland Fire Advisory Group (WFLAG)

### Trends of Changing Fire Regimes and Impacts: Rationale for Internationally Concerted Action

**The 1980s:**  
Acceleration of large-scale land-use change involving burning of native vegetation in the tropics

**El Niño of 1997-98:**  
Accelerated and excessive conversion burning and large-scale wildfires in SE Asia, Africa and the Americas

**Northern Eurasia and Central Asia 2003:**  
Combined effects of societies and economies in transition and regional climate change: Increase of land area affected by wildfires

**Expected consequences of climate change, land use and land-use change in the 21<sup>st</sup> Century:**  
Increasing occurrence of extreme droughts and fire severity

**Consequences: Environmental degradation and secondary disasters:**  
Increasing vulnerability of human populations and the Earth System

**Increasing occurrence of uncontrollable "megafires" as a consequence of climate change and altered natural fire regimes?**

**Fire emissions, atmosphere and climate:**  
Acceleration of destruction of vegetation cover and terrestrial carbon depletion, notably peat deposits

### An International Platform facilitating International Cooperation in Wildland Fire Management

**History**  
• 2001 – UN International Strategy for Disaster Reduction (UNISDR), Inter-Agency Task Force for Disaster Reduction, follows the proposal by the World Conservation Union (IUCN) and the Global Fire Monitoring Center (GFMC) to establish a Working Group on Wildland Fire  
• Members of the Working Group: Core Group and Consultative Group – see graph  
• December 2001: the Working Group decided to give priority to the establishment of the "Global Network of Regional Wildland Fire Networks" aimed at facilitating the functioning of a global fire management working programme or network

**Geography of the Global Wildland Fire Network**  
By May 2007 thirteen regional fire networks are in place with different histories and institutional or legal arrangements

**2003 – UNISDR Inter-Agency Task Force for Disaster Reduction decides to transit the Working Group to the Wildland Fire Advisory Group (WFLAG) under the auspices of the UNISDR, which is**  
• serving as an advisory body to the UN system to provide technical, scientific and policy-supporting advice to the United Nations  
• acting as a liaison between the United Nations system, the Global Wildland Fire Network and its supporting partners

**The Global Fire Monitoring Center (GFMC) is mandated to serve as convener and secretariat.**

**2001 – Geneva meeting of the Working Group on Wildland Fire – launch of the Global Wildland Fire Network**

**2004 – WFLAG Meeting at GFMC – recommendation to develop an International Wildland Fire Accord**

**2005: Regional Wildland Fire Networks conduct the Fire Management Voluntary Guidelines Assessment for FAO**

**2006: GWFN members contribute to the development of the Fire Management Voluntary Guidelines as requested by the FAO Ministerial Meeting on Forests and COFO-17 (2005); GFMC reviews international cooperation in fire management**

**2007: GWFN member of the newly established Global Platform for Disaster Risk Reduction under the auspices of UNISDR**

**2011: Regional Subsahara Wildland Fire Network / AtrFireNet to host the 5<sup>th</sup> International Wildland Fire Conference in South Africa**

**International Wildland Fire Summit (2003)**

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**Photo / Graphics / Images Credits:** Canadian Forest Service, M.O. Andrese, A.A. Hoffmann, GFMC Archive, NASA, Chisholm Fire Documentation Team (Alberta, Canada)

**Website of the Global Wildland Fire Network:** <http://www.gfmc.org>

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[www.gfmc.org](http://www.gfmc.org)

<sup>1</sup> Note: High-resolution versions of the posters are available at:  
<http://www.fire.uni-freiburg.de/GlobalNetworks/posters.html>



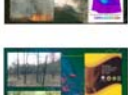
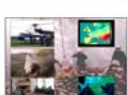
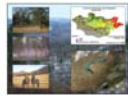


# The Global Wildland Fire Network

## United Nations International Strategy for Disaster Reduction (UNISDR)



### Regional South East Asia / ASEAN Wildland Fire Network



Regional Wildland Fire Networks:  
 North America – Mesoamerica – South America – Caribbean – Mediterranean – Southeast Europe / Caucasus – Sub-Saharan Africa – South Asia – Southeast Asia – Australasia – Northeast Asia – Central Asia – Baltic



The land and forest fires that hit the ASEAN region in 1997-1998 have been particularly severe. The environmental, economic and social dimensions and impact of these fires, and the associated transboundary haze pollution, were profound. The total economic losses in terms of agriculture production, destruction of forest lands, health, transportation, tourism, and economic endeavours have been estimated at more than \$US9 billion.

As a partnership for sharing experiences, information, responsibilities and benefits, and working towards common good, ASEAN is in strong position to address the problem at the regional level. The Regional Haze Action Plan (RHAP) was endorsed by the ASEAN Environment Ministers in December 1997. The RHAP has three major components: prevention, mitigation and monitoring. There has been good progress in the implementation of the RHAP. This continues with the implementation of the ASEAN Agreement on Transboundary Haze Pollution after its entry into force in November 2003.

#### ASEAN AGREEMENT ON TRANSBOUNDARY HAZE POLLUTION

The Governments of the ten ASEAN Member Countries signed the ASEAN Agreement on Transboundary Haze Pollution on 10 June 2002 in Kuala Lumpur, Malaysia. The Agreement is the first regional arrangement in the world that binds a group of contiguous states to tackle transboundary haze pollution resulting from land and forest fires. It has also been considered as a global role model for the tackling of transboundary issues. The Agreement entered into force on 25 November 2003.



The Agreement requires the Parties to the Agreement to (i) cooperate in developing and implementing measures to prevent, monitor, and mitigate transboundary haze pollution by controlling sources of land and/or forest fires, development of monitoring, assessment and early warning systems, exchange of information and technology, and the provision of mutual assistance; (ii) respond promptly to a request for relevant information sought by a State or States that are or may be affected by such transboundary haze pollution, with a view to minimising the consequence of the transboundary haze pollution; and (iii) take legal, administrative and/ or other measures to implement their obligations under the Agreement.

#### PANEL OF ASEAN EXPERTS ON FIRE AND HAZE ASSESSMENT AND COORDINATION

The Panel of ASEAN Experts on Fire and Haze Assessment and Coordination was established by the ASEAN Environment Ministers in October 2004 to undertake rapid assessment of the situation on the ground during potential or impending critical periods of fires and haze, and provide recommendations to facilitate immediate response and effective mobilisation of resources within the region.



The Panel of ASEAN Experts has been deployed three times during the dry season of 2006 to Riau, West Kalimantan, and South Sumatra Provinces in Indonesia.

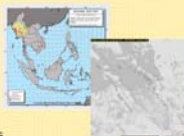


Detailed operational procedures for the mobilisation of the Panel have been developed. At a workshop in April 2007 the Panel of ASEAN Experts fine-tuned the procedures based on experiences from the 2006 missions, and developed guidelines for conducting joint rapid assessments.

#### IMPLEMENTATION OF THE ASEAN HAZE AGREEMENT

Some substantive developments:

- Continuous monitoring of land and forest fires and associated haze by ASEAN Specialised Meteorological Centre;
- Development and operationalization of the regional standard operating procedures (SOP) to guide monitoring and assessment efforts and joint emergency response;
- Simulation exercises to enhance coordination and communication mechanisms in joint emergency response;
- ASEAN Haze Action Online website ([www.haze-online.or.id](http://www.haze-online.or.id)) to facilitate information sharing and dissemination;
- Online inventory of available fire fighting resources in ASEAN countries that could be made available in case of emergency;



- Development of guidelines for zero burning and controlled burning practices;
- Establishment of community fire brigades at village level;



- Capacity building, training programmes, and on-the-ground activities to promote rehabilitation and sustainable use of peatlands.



#### ASEAN PEATLAND MANAGEMENT STRATEGY, 2006-2020

60% of world's tropical peatlands are found in Southeast Asia covering an estimated area of between 21 to 23 million ha. Over 70% of total peatland areas in Southeast Asia is in Indonesia. Other major peatland areas are found in Brunei Darussalam, Malaysia, Philippines, Thailand, and Viet Nam. Drainage and unsustainable management practices have made the peatlands vulnerable to fire. Peatland fires are now a major problem of regional and global significance which has negatively impacted human health, food production and biodiversity as well as contributed to global climate change. Peatlands of the region are thought to store up to 5% of all carbon stored on the world's land surface. The clearance, drainage and burning of peatlands in the region is now leading to significant carbon emissions. More than 2 million ha of peatlands have burnt in the past 10 years resulting in thick smoke and haze blanketing the region inflicting damage worth an estimated \$US9 billion.

The ASEAN Peatland Management Initiative (APMI) was adopted by the ASEAN Member Countries in 2003 to enhance peatland management in the region. Under this Initiative, the ASEAN Peatland Management Strategy (APMS) covering the period 2006-2020 has been developed by ASEAN Member Countries to guide actions to sustainably manage peatlands and reduce fires and associated haze within the framework of the ASEAN Agreement on Transboundary Haze Pollution.



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Email: [haze@aseansec.org](mailto:haze@aseansec.org) | Website: [www.haze-online.or.id](http://www.haze-online.or.id), [www.aseansec.org](http://www.aseansec.org)

Link to the Global Wildland Fire Network: <http://www.fire.uni-freiburg.de/GlobalNetworks/SouthEastAsia/ASEAN-FireNet.html>



[www.gfmc.org](http://www.gfmc.org)





# The Global Wildland Fire Network

## United Nations International Strategy for Disaster Reduction (UNISDR)



### Regional North American Wildland Fire Network



#### North American Forest Commission – Fire Management Working Group



#### History

In 1960, the United Nations Food and Agriculture Organization established the North American Forest Commission with Canada, Mexico, and the United States as members.

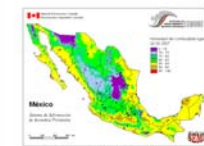
The purpose of the Commission is to advise on the formulation of forest policies and to review and coordinate its implementation of the regional plan; to exchange information; and to recommend appropriate solutions to technical problems.

The Fire Management Working Group was established in 1962. Annual meetings have rotated among the member countries since inception.

#### NAFC-FMWG Objectives

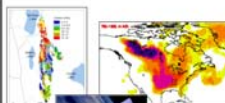
1. To exchange experiences and technological advances regarding prevention, wildland fire management, and fire use.
2. To provide mutual aid and technical exchanges between Canada, Mexico and the United States in the development of strategy and appropriate actions to resolve North American fire problems.
3. To actively support and participate in international fire management programs with fire management agencies throughout the world by developing and promoting activities that support international cooperation and development.

#### 1. Exchanging Science & Technology



Developing Mexico's Fire Management System

Interagency training: science, technology and fire operations



North American wildland fire emissions modeling



#### 2. Providing Mutual Aid



Suppressing fires in the Wildland Urban Interface



Interagency resource sharing: Canada (BCFS) - Mexico

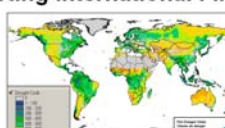


Implementing the Incident Command System

#### 3. Supporting International Fire Management



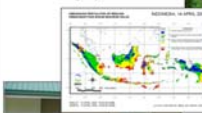
International development in fire management: SE Asia Fire Danger Rating System



Developing a global early warning system for wildland fire



Fire research: International Crown Fire Modeling Experiment (Northwest Territories, Canada)



International resource sharing: Canada (BCFS) and Australia

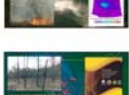
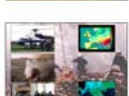
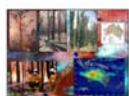
NAFC-FMWG website: <http://www.fs.fed.us/global/nafc/fire/aboutus.htm>

Link to the Global Wildland Fire Network: <http://www.fire.uni-freiburg.de/GlobalNetworks/NorthAmerica/NorthAmerica.html>

Photo credits: British Columbia Forest Service, Canadian Forest Service, México Comisión Nacional Forestal, United States Forest Service



[www.gfmc.org](http://www.gfmc.org)

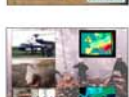


Regional Wildland Fire Networks: North America – Mesoamerica – South America – Caribbean – Mediterranean – Southeast Europe / Caucasus – Sub-Saharan Africa – South Asia – Southeast Asia – Australasia – Northeast Asia – Central Asia – Baltic



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## Regional Australasian Wildland Fire Network

### AUSTRALASIAN WILDLAND FIRE NETWORK

#### AUSTRALASIA AND PACIFIC ISLANDS

Diverse landscapes, social and cultural contexts, and approaches to fire management



#### LANDSCAPE AND FIRE RISK

Tropical Forest	Dry Sclerophyll	Arid Woodland
LOW RISK	HIGH RISK	LOW RISK
Fire Exclusion Required Ecologically		Appropriate Fire Regimes Essential

#### SOCIAL/CULTURAL CONTEXT

Community Managed Wildland Fire		Multi-agency Responsibility
Evolving Fire/Land Management		Highly Structured Systems

#### SUPPRESSION

Locality Dependent		Internationally Coordinated
Limited/ No Research		Coordinated International Research
Low Technology Low Cost		High Technology High Cost



Link to the Global Wildland Fire Network: <http://www.fire.uni-freiburg.de/GlobalNetworks/Australasia/Australasia.html>







## Regional Caribbean Wildland Fire Network

### INTRODUCCIÓN

La Región del Caribe está localizada en el Mar de igual nombre, formada por gran cantidad de islas las cuales constituyen el territorio de más de 20 países. Generalmente, a la llegada de los Europeos a la Región, estos pequeños Estados estaban prácticamente cubiertos de bosques. Según PNUMA (2000) citado por FAO (2000a) el total de la superficie cubierta de bosques en el Caribe representa únicamente un 0.1 por ciento de la cubierta forestal total del mundo. Sin embargo, el alto endemismo de las plantas de la región, las características particulares de los humedales caribeños y la importancia de la cubierta verde en las economías locales, sobre todo para el turismo como actividad principal de la economía en la mayoría de estos países, hacen que la cubierta forestal sea fundamental para esta subregión, la cual, según PNUMA (2000) considerada conjuntamente con las regiones costeras de América del Norte, Centro América y América del Sur, encierra la mayor concentración de diversidad biológica de la cuenca del Océano Atlántico.



**Caribe: Prevención y extinción de incendios, ecología del fuego, cooperación**

Todo lo anterior argumenta la importancia de la protección de estos ecosistemas contra los incendios forestales, los cuales junto a los huracanes y en menor escala a los volcanes, son una causa importante de destrucción en la región.

### DESARROLLO

En los países de la región del Caribe, al igual que en la mayoría de los países del mundo, ocurren incendios forestales, no obstante, no existe disponible, o no es divulgada convenientemente, información sobre los mismos. En la tabla 1 se muestra un resumen de las estadísticas de incendios en algunos países del Caribe (Cuba, República Dominicana y Trinidad) para el caso de los incendios forestales y Cuba, República Dominicana y Trinidad para el caso de las áreas afectadas) de 1995 a 2003. De acuerdo con Eckelmann (2004) y Robbins (2005) las causas probables de incendios forestales en el Caribe son las siguientes: Incendios provocados por el uso del fuego en la agricultura, incendios originados por campistas y juegos de los niños, incendios provocados deliberadamente como forma de resolución de problemas o protesta contra determinadas personas o contra el gobierno, incendios provocados por vandalismo, incendios provocados por causas naturales e incendios provocados por otras causas. La distribución de los incendios forestales según las causas en un grupo de países (Cuba, República Dominicana y Trinidad) de 1995 a 2004 se muestra en la figura 1.

**Figura 1. Distribución de las causas de incendios en Cuba, República Dominicana y Trinidad.**



Las informaciones obtenidas sobre doce países del Caribe (Bahamas, Barbados, Cuba, Dominica, Granada, Guadalupe, Jamaica, Puerto Rico, República Dominicana, Santa Lucía, San Vicente y las Granadinas, Trinidad y Tobago) permiten afirmar que en la gran mayoría de los mismos existen instituciones responsables de una forma u otra de la protección contra los incendios forestales y en otros tipos de vegetación. Existe legislación sobre el tema de los incendios forestales, no obstante, no tiene en cuenta instrumentos que permitan desarrollar la cooperación bilateral o multilateral.

**Tabla 1. Incendios y áreas quemadas en Cuba, Dominica, República Dominicana y Trinidad.**

Años	Incendios Forestales		Área quemada		Promedio (ha/inc.)
	Número	%	ha	%	
1995	1066	13.80	16 822.85	11.23	15.78
1996	558	7.22	7 014.08	4.68	12.57
1997	837	10.83	18 250.73	12.19	21.80
1998	1205	15.59	15 488.64	10.34	12.85
1999	746	9.65	25 036.77	16.72	33.56
2000	673	8.71	11 329.64	7.57	16.83
2001	1121	14.51	18 864.03	12.60	16.83
2002	608	7.87	24 437.75	16.32	40.19
2003	913	11.82	12 510.88	8.35	13.70
<b>Total</b>	<b>7727</b>	<b>100.00</b>	<b>149 755.37</b>	<b>100.00</b>	<b>19.38</b>

Como recomendaciones para la factibilidad y el fortalecimiento de la cooperación bilateral o multilateral para la prevención, control y combate de incendios forestales, pueden mencionarse las siguientes: Analizar convenientemente la terminología utilizada sobre manejo del fuego, desarrollar una base de datos regional, propiciar el intercambio de información, desarrollar los sistemas nacionales de prevención, desarrollar las capacidades de respuesta para el combate de los incendios forestales y de otros tipos de vegetación, desarrollar la capacitación y/o entrenamiento, fortalecer las investigaciones, y potenciar la presencia del tema de los incendios forestales en la Asociación de Estados del Caribe y en agencias regionales tales como CDERA y CACDAPCO.

**Santo Domingo, República Dominicana, 26 – 30 de Junio de 2006: 24 Reunión de COFLAC.**  
**Objetivo: Adoptar la Estrategia Regional del Caribe sobre Manejo del Fuego.**

### REFERENCIAS BIBLIOGRÁFICAS:

1. Eckelmann, C.M. 2004: Summary of Working Group Presentations to Identify the Underlying Causes for Wild Fires and Recommendations for National Forest Fire Management Programs. 12th Caribbean Foresters Meeting International Institute of Tropical Forestry, Rio Piedras, Puerto Rico.
2. Robbins, A.M.J. (2005): Forest Fires in the Caribbean and Mesoamerican Regions.

**Curitiba, Brasil, 17 de Junio de 2004: Durante el desarrollo del Cuarto Simposio Sur-americano sobre protección contra incendios forestales, se propone la fundación de la Red Regional del Caribe sobre Incendios Forestales. Hasta este momento el Caribe integraba la Red Regional de Mesoamérica. La nueva Red formaría parte de la Red Mundial de Incendios Forestales.**

**San José, Costa Rica, 21 y 22 de Octubre de 2004: Se reúnen por separado las redes de América del Norte, América Central, Caribe y América del Sur. Estos encuentros sirvieron de base para la Conferencia Panamericana sobre Incendios Forestales. Objetivo: Fortalecer la cooperación internacional para el manejo, prevención y control de los incendios forestales. Se elabora la Declaración de Costa Rica.**

**Santo Domingo, República Dominicana, 31 de Mayo – 2 de Junio de 2005: Se desarrolla el Taller Técnico Subregional del Caribe. Objetivo: Apoyar la capacidad de los países del Caribe para el desarrollo de la estrategia caribeña de cooperación y el fortalecimiento del funcionamiento operacional, así como su inserción en la estrategia de cooperación regional con las subregiones de Mesoamérica y sudamérica.**

### CONCLUSIONES

- La implementación de la Estrategia del Caribe para el Manejo del Fuego permitirá consolidar la colaboración y cooperación bilateral y multilateral entre los países del área, así como con otros países de América Latina, contribuyendo sostenidamente al mejoramiento ambiental y de la calidad de vida de los habitantes de la región.
- Se elaboró el Plan Operativo para el periodo 2006-2008 el cual respalda las acciones a desarrollar propuestas en la Estrategia Regional.

Network Website and Link to the Global Wildland Fire Network: <http://www.fire.uni-freiburg.de/GlobalNetworks/Caribbean/Caribbean.html>







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#### Antecedentes Generales

América del Sur con 17.819.100 km<sup>2</sup> y 7.400 km. de largo abarca el 12% de la superficie terrestre. Posee la mayor extensión de bosques húmedos tropicales del mundo, (885 mill. de has. en la cuenca del Amazonas y 85 mill. en las cuencas del Orinoco y Paraná) totalizando el 95 % de la cubierta boscosa del continente.

En la Región se protege alrededor de la cuarta parte de las bosques tropicales del planeta bajo diferentes categorías de conservación. También se presentan bosques templados naturales y plantados y la Cordillera de los Andes permite la existencia de otros ecosistemas asociados a los glaciares tropicales, hasta los desiertos mas secos del mundo.

Se estima que en las tres últimas décadas han ocurrido no menos de 290.000 incendios forestales, afectando 51.7 millones de hectáreas. De éstas no menos de 300.000 ha. son de plantaciones de pinos y eucaliptos, sin embargo las estimaciones pueden ser superiores considerando solo Brasil y Chile.

En promedio, el 85,5 % de los incendios forestales se deben a causas humanas; el 5,5 % a causas naturales (rayos) y el 9% a causas desconocidas. Entre las causas humanas se cuenta la deforestación por cambio del uso de suelos forestales a cultivos agroindustriales, minería, políticas de construcción de redes viales, actividades ganaderas y maderera ilegal. (FAO-Global Forest Resources Assessment 2005).

Los pronósticos de las consecuencias del cambio climático mundial y particularmente regional prevén un aumento de los incendios forestales en variados puntos de la región, por lo que los países necesitan y tienen la obligación de aumentar su cooperación, estar coordinados y preparados para enfrentar estos desafíos ante un escenario mas severo.



Incendio fronterizo Patagonia Chile-Argentina, 2003



Incendios forestales en Brasil, Argentina, y Paraguay (NASA, 2006).



Combate aéreo del fuego - Chile 2005

#### Desafíos

La Red es el mecanismo de implementación de la **ESTRATEGIA DE COOPERACIÓN DE AMÉRICA DEL SUR PARA EL MANEJO DEL FUEGO** la cual tiene:

#### VISION

Los países de América del Sur logran consolidar un sistema sostenible de cooperación bilateral y multilateral en Manejo del Fuego y el desarrollo de una política subregional en la materia, contribuyendo a la protección y conservación de los bosques, áreas naturales y al mejoramiento de la calidad de vida de los habitantes de la subregión.

#### MISSION

Fortalecer la coordinación, colaboración y el intercambio de conocimientos, experiencias y recursos técnicos entre los países de América del Sur y disponer de una red de trabajo que viabilice la cooperación bilateral y multilateral en Manejo del Fuego a fin de reducir los impactos ambientales, sociales y económicos ocasionados por el fuego en la subregión.

#### OBJETIVO GENERAL

Minimizar el número de incendios en la cobertura vegetal y sus efectos negativos sobre los ecosistemas naturales, las plantaciones forestales, los agroecosistemas, las sociedades y la economía, así como fomentar el Manejo del Fuego desde el fortalecimiento de las políticas y estrategias nacionales a través del diálogo, la integración de esfuerzos, los acuerdos y la cooperación entre los países de América del Sur, en forma coordinada a nivel nacional y subregional y con participación de todos los sectores sociales involucrados.



Incendios en Brasil, 2003



Uso del Fuego en el Paraguay



Incendio superficial, Perú - 2004



Incendio en Bosque Araucaria araucana, Chile 2002



Usuario del fuego en Venezuela

#### Hitos de la Red

- Octubre 2003, III International Wildland Fire Conference and Summit, Sydney. Primera iniciativa, se expresa deseo tener una Red de Incendios Forestales para Sudamérica.
- Junio 2004. Declaración de Curitiba y Fundación de la Red Regional Sudamericana de Incendios Forestales, con el apoyo del Centro Mundial de Monitoreo de Incendios (GPMC) <<http://www.fire.uni-freiburg.de/GlobalNetworks/SouthAmerica/SouthAmerica.html>>.
- Octubre 2004, San José. Reuniones de las tres Redes de Incendios Forestales de Latinoamérica en el marco de la Conferencia Panamericana sobre Incendios Forestales.
- Diciembre 2004, GPMC, Freiburg. Se presenta la Red de América del Sur en la primera Reunión de la Red Mundial de Incendios Forestales aprobándose el manifiesto de la misma para la Reunión Ministerial de Bosques y la 17ª Sesión del COFO.
- 2005. Proyecto FAO TCP/RLA/3010. Desarrollo de la Estrategia Regional de Cooperación para Incendios Forestales en América Latina y el Caribe.
- Junio 2005 Curitiba. Taller Técnico Subregional que elabora y acuerda bases de Estrategia de Cooperación de América del Sur para el Manejo del Fuego.
- Junio 2006. Se adopta el Grupo de Trabajo de América del Sur para el Manejo del Fuego, en la 24ª Reunión de la Comisión Forestal para América Latina y el Caribe (COFLAC).
- Septiembre 2006. Curso FODEPAL de Formulación de Políticas Nacionales para el Manejo del Fuego en América Latina y el Caribe.
- Marzo 2007. MOU entre la Secretaría Ejecutiva de la FAO-COFLAC y la Secretaría Ejecutiva prótempore del Grupo de Trabajo de América del Sur para el Manejo del Fuego.



Brigadas Chilenas y Argentinas apoyo internacional incendio en la Patagonia 2005



Fire Management Global Assessment 2006 (FAO 2006)



Brigada en construcción de línea de fuego en bosque siempreverde



Monitoreo diario de focos de incendios por satélites - INPE/Brasil

Network Website:  
<http://www.fire.uni-freiburg.de/GlobalNetworks/SouthAmerica/SouthAmerica.html>

[www.gfmc.org](http://www.gfmc.org)





# The Global Wildland Fire Network

## United Nations International Strategy for Disaster Reduction (UNISDR)



Regional Wildland Fire Networks:  
 North America – Mesoamerica – South America – Caribbean – Mediterranean – Southeast Europe / Caucasus – Sub-Saharan Africa – South Asia – Southeast Asia – Australasia – Northeast Asia – Central Asia – Baltic

### Regional Southeast Europe / Caucasus Wildland Fire Network

#### Fires in the Balkan-Caucasus Region

**Changing conditions:** Increasing regional droughts, economies and societies in transition, weakened institutional capacities  
**Particular regional problems:** Armed conflicts and heritage of former conflicts (landmines), radioactive pollution



The UNECE/FAO Conference released the "Antalya Declaration on Cooperation in Wildland Fire Management in the Balkans, Eastern Mediterranean, Near East and Central Asia"



The regional consultation in 2005 in Ohrid, Republic of Macedonia, decided to invite neighbouring countries and to expand its area of joint activities to Southeast Europe.

Burned forest area (ha) in the Balkan region 1998-2004

Year	Albania	Bulgaria	Croatia	Greece	It. 12	Montenegro	Slovenia	Serbia and Montenegro	Turkey	Total	Average
1998	1	402	1	110 000	0 547	1	45	18 270	104 305	124 825	10 402
1999	1	223	1	42 364	1 590	1	14	13 099	57 264	71 617	5 968
2000	1	1 012	1	38 000	0 530	1	145	1 342	49 000	50 932	4 244
2001	1	471	1	22 554	430	1	23	8 001	20 111	23 592	1 966
2002	1	4 154	1	68 540	9 105	1	10	12 222	30 545	115 577	9 631
2003	1	10 174	1	54 049	12 312	1	1 261	591	15 303	83 591	6 966
2004	1	5 708	1	37 000	6 000	1	15	10 120	112 500	163 665	13 639
2005	1	521	1	27 200	54	1	149	8	7 676	28 517	2 376
2006	1	1 833	1	25 310	670	1	244	21	14 922	43 181	3 598
2007	1	472	1	37 717	3 362	1	363	12	8 803	41 635	3 469
2008	1	6 040	1	101 004	1 621	1	145	1	9 717	118 529	9 878
2009	1	4 198	1	10 100	1 730	1	321	2	3 079	20 433	1 703
2010	1	37 431	1	145 000	35 100	1	124	1 250	24 500	211 356	17 613
2011	1	18 443	1	18 342	8 443	1	243	13	8 000	45 485	3 791
2012	1	5 910	1	4 704	430	1	77	1 072	6 100	12 316	1 026
2013	1	5 000	1	14 100	3 400	1	3 000	1	6 000	29 501	2 458
2014	1	691	1	1 400	1	1514	1	12	4 076	8 000	667
Total	6 301	107 079	10 543	770 000	34 401	7 000	4 172	205 172	1 080 000	1 900 000	156 302
Average	1 625	6 299	10 169	45 628	5 585	541	245	12 069			

Regional networking in South East European was initiated in 2002, at that time called "Regional Balkan Wildland Fire Network". A major regional activity was the "UNECE/FAO Conference on Forest Fire Management and International Cooperation in Fire Emergencies in the Eastern Mediterranean, Balkans and adjoining Regions of the Near East and Central Asia" (Antalya, Turkey, 2004). The conference was followed by a regional forest fire exercise "Eastern European, Near East and Central Asian States Exercise on Wildland Fire Information and Resources Exchange - EASTEX FIRE 2005", hosted by Bulgaria. At a regional consultation in the Republic of Macedonia in 2005 members of the Balkan Network decided to invite neighbouring countries and to expand its area of joint activities to Southeast Europe. Subsequently the network was renamed "Regional South East European Wildland Fire Network". With the growing interest of the countries adjoining to the regional, notably in the Caucasus region, it was suggested in 2006 to broaden the geographic scope of the region by including countries of the Caucasus region. Once again, the network was renamed – "Regional Southeast Europe / Caucasus Wildland Fire Network".



Network Website and Link to the Global Wildland Fire Network: <http://www.fire.uni-freiburg.de/GlobalNetworks/SEEurope/SEEurope.html>



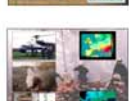
Some impressions of the regional forest fire exercise "EASTEX FIRE 2005" (Haskovo, Bulgaria, April 2005)



At the Regional Wildland Fire Consultation on "Development of a Strategy on International Cooperation in Wildland Fire Management in the Regional South East European / Caucasus Wildland Fire Network" (Sofia, Bulgaria, 19-21 March 2007) the Caucasus Region, Romania and Ukraine joined the network.







Regional Wildland Fire Networks:  
North America – Mesoamerica – South America – Caribbean – Mediterranean – Southeast Europe / Caucasus – Sub Sahara Africa – South Asia – Southeast Asia – Australasia – Northeast Asia – Central Asia – Baltic



Regional Mesoamérica Wildland Fire Network

## Go to the Integrated Fire Management



On only 2% of the World's land surface area Mesoamerica is hosting 12% of the global biodiversity.

Under the Regional Fire Management Strategy Mesoamerican countries are cooperating in planning and coordination of fire prevention and control.

A regional commission (Comisión Centroamericana de Ambiente y Desarrollo [CCAD], Comité Técnico De Bosques) is coordinating the implementation of the regional strategy in the period 2005 to 2015.







# The Global Wildland Fire Network United Nations International Strategy for Disaster Reduction (UNISDR)



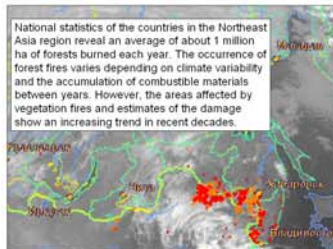
## Regional Northeast Asia Wildland Fire Network

### Network History

The UNISDR Regional Northeast Asia Wildland Fire Network was established in 2004. The Foundation meeting of the Regional Northeast Asia Wildland Fire Network was held in Seoul, Republic of Korea on 6 March 2004. It was hosted by Global Fire Monitoring Center (GFMC) and Korea Forest Research Institute, and supported by UN International Strategy for Disaster Reduction (UNISDR) and the Food and Agriculture Organization (FAO). Participating countries: Republic of Korea, China, Russia, and Japan, with Mongolia as a partner from the Central Asia Network. North Korea has been invited to join.

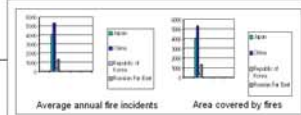


The Regional Northeast Asia Wildland Fire Network covers an area of 16.4 million km²



Vegetation fires overwhelmingly originate from human causes: 95% in China, 71% in the 1990s in Japan, and 79% in the Republic of Korea. The present harsh economic realities force the North Korean population to clear forests to collect wood for heating and cooking. According to the government statistics, the share of human-caused forest fires in the Far East of Russia during the last two decades was between 60-80% (84% in 2004).

Transboundary smoke pollution generated by vegetation fires, notably in peatlands, is one of the major problems to be collaboratively addressed by countries of the NEA region.



### Problems to be addressed:

There is a need in support of potential of some organizations and persons to develop rapid cooperation on all levels of the civil society. Not all elements of the civil society are still represented in the Network. The countries of the region so far have not yet fully shared information and have not yet cooperated sufficiently to jointly address these problems. The management mechanism of the Network itself should be adjusted since the network is subject to environmental turbulence, the consequences of stakeholder motives and behavior, and the skills of its members.

On 30 September 2006 the Avialesokhkhra subdivision of Khabarovsk Territory arranged a visit of participants of the 2nd Meeting to fire sites in the territory. The participants received information on type of fires, their number and covered area, witnessed the consequences of fires, were introduced the possibilities of local fire service personnel to suppress fires. During the field trip the participants discussed the problems of post-fire forest recovery and gave recommendations. According to the information, there is a need in more financial resources and even attraction of international sponsors, taking into account the value of these forests.

Aerial view of the mountain area burned in Khabarovsk Region during the 1996 drought

### Mission Statement

The Regional Northeast Asia Wildland Fire Network, founded in 2004 by representatives of governments and civil society of China, Japan, Republic of Korea and the Russian Federation, and organized under the umbrella of the UNISDR Global Wildland Fire Network, advocates the interests of its members and supporters towards reducing the negative impacts of wildland fires on the environment and on societies. The network aims at realizing these goals through enhanced international cooperation in wildland fire management research, development, capacity building, sharing of knowledge and resources, and mutual support. The cooperation is based on the principle of partnership between the participating countries and the international community.



In 2005 in Japan the Network participants conducted the second meeting at Tohoku University, Sendai, 18 January 2005 and the Preparatory Meeting for the 3rd Regional Network Meeting 2006 in Tokyo, 2 December 2005.



### Tasks of Members

1. Member countries should share the experience of fire management accumulated in the Northeast Asia states.
2. National and local fire management capacities need to be strengthened, notably through advanced training.
3. Northeast Asia countries should create a mechanism of cooperation in fire management and information exchange.
4. There is a need to harmonize definitions and terms related to fire management, especially in the main regional languages (Chinese, Japanese, Korean, Mongolian, Russian).
5. It is expected that after the meetings and discussions participants will have a better understanding of fire situation in Northeast Asia.
6. Participants request assistance and further cooperation from GFMC, UNISDR, FAO and other international organizations and the donor community.

The next Consultation meeting took place in East-Siberian Institute of Ministry of Internal Affairs, Irkutsk, Russian Federation, 8 September 2005, in partnership with the UNISDR Regional Central Asia Wildland Fire Network, as a response to needs for the further international cooperation development.



Cover of the book on wildland fires in NEA published in Russian in 2006

The general objective of the meetings was to provide an overview of the forest fire situation in NEA, support and develop bilateral and multilateral cooperation, and approve a Mission Statement. The specific objectives of all meetings included: (1) Invite experts to discuss fire problems and exchange experience, (2) Identify institutions and individuals interested in fire cooperation, (3) Discuss the significance of forest fires in nature and society, (4) Fire monitoring, detection and suppression, (5) Identify sources of possible inside and outside technical and funding assistance and support.

The Third International Meeting of the Regional Northeast Asia Wildland Fire Network was organized in Khabarovsk (Russia) on 29-30 September, 2006 by Pacific Forest Forum (PFF) and the Regional Far East Forest Fire Center of Federal Forestry Agency of Russia under the aegis of UNISDR Wildland Fire Advisory Group / Global Wildland Fire Network, Global Fire Monitoring Center. The Regional Northeast Asia Wildland Fire Network meeting was held as all previous meetings in conjunction with the forest fire conference. The III Meeting is a response to needs for the further international cooperation development.



Upcoming Consultations: 2007 – Beijing (China); 2008 – Ulanbaatar (Mongolia)

### The directions of concrete cooperation:

- Transfer of knowledge, technology and expertise
- Sharing of research findings, lessons learned and best practices
- Compatible information and forecast exchange on fire situation
- Enhancing of governance for fire risk reduction, for education, training and awareness-raising initiatives and for capacity building
- Financial assistance to improve fire effectiveness of work of existing systems and achieve new levels of capacity building and international cooperation.

Network Website and Link to the Global Wildland Fire Network:

<http://www.fire.uni-freiburg.de/GlobalNetworks/Northeast-Asia/Northeastasia.html>



[www.gfmc.org](http://www.gfmc.org)

Regional Wildland Fire Networks: North America – Mesoamerica – South America – Caribbean – Mediterranean – Southeast Europe / Caucasus – Sub-Saharan Africa – South Asia – Southeast Asia – Australasia – Northeast Asia – Central Asia – Baltic







# The Global Wildland Fire Network

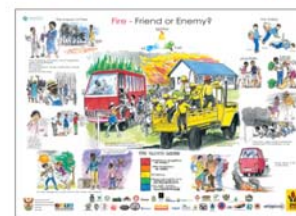
## United Nations International Strategy for Disaster Reduction (UNISDR)



### Regional Sub-Sahara Africa Wildland Fire Network



The South African Working on Fire Programme „WoF“ is the main AfriFireNet partner and is kindly hosting the network office in South Africa:  
[www.workingonfire.org](http://www.workingonfire.org)



#### Network Activities:

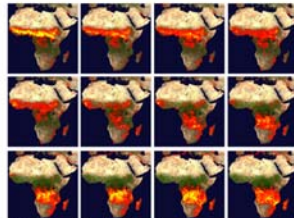
2002 to date

#### Regional Capacity Building – Fire Management Training Courses:

- Community Based Fire Management
- Basic Fire Fighting and Prescribed Burning
- Advanced Fire Fighting and Prescribed Burning
- IC Type 5 / Fireboss Level 1
- IC Type 4 / Fireboss Level 2
- Dispatching & Coordinating Veldfire Resources
- Engine Boss
- Hand Crew Leader
- Strike Attack Leader
- Aircraft Loading
- Managing Prescribed Burning
- Fire Awareness
- Fire Prevention
- Fire Protection Officer
- Intermediate & Advanced ICS
- Logistics Section Chief, ICS
- Wildfire Origin, Cause Investigation & Determination
- Lookout Guard

#### Regional Exchange and Assistance:

- Crew Leader Exchange:
  - Ghana - South Africa
  - Uganda - South Africa
- Development of Bilateral Agreements:
  - Namibia - South Africa
  - Botswana - South Africa
  - Zimbabwe - South Africa
  - Swaziland - South Africa
  - Tanzania - South Africa
  - United States of America - South Africa



AFRICA - The Fire Continent (MCDIS Assessment, 2005)



#### Production of Training and Education Materials, Fire Management Plans and Regional Analysis:



Fire Management Plan, Okavango Delta Ramsar Site, Botswana



Prescribed Fire Training, Gorongosa, Mozambique



Community Based Fire Management Training, Crew Briefing, Hazyview, South Africa



Type I Crew Leader Parade, Witsieshoek, South Africa



Calculating the Lowveld FDL Nelspruit, South Africa

Network Website and Link to the Global Wildland Fire Network: <http://www.fire.uni-freiburg.de/GlobalNetworks/Africa/Afrifirenet.html>

[www.gfmc.org](http://www.gfmc.org)



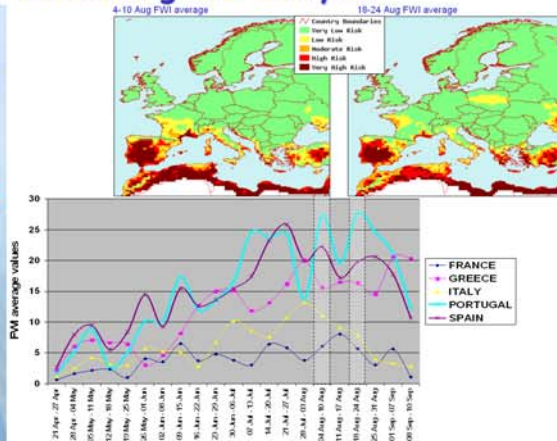
Regional Wildland Fire Networks:  
North America – Mesoamerica – South America – Caribbean – Mediterranean – Southeast Europe / Caucasus – Sub-Saharan Africa – South Asia – Southeast Asia – Australasia – Northeast Asia – Central Asia – Baltic



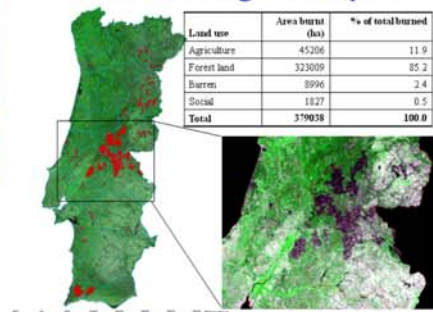
# The European Forest Fire Information System EFFIS

A successful cooperation between the European Commission and the national forest fire services in Europe

## Fire danger trend monitoring and analysis



## Burnt Area Mapping and Fire damage analysis

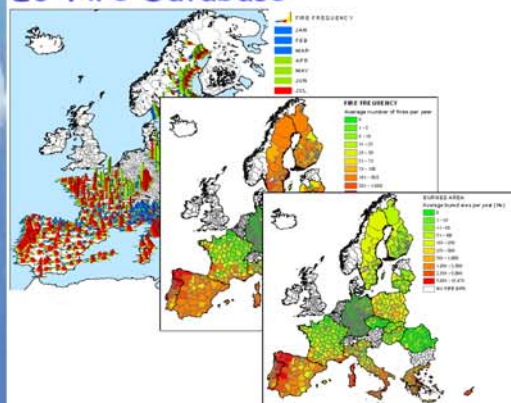


## Fire emissions

(Tg - Med reg.)	2000	2001	2002	2003	2004	2005
Burned Biomass	6.4	4.4	4.1	11.8	5.5	7.8
CO <sub>2</sub>	10.7	7.3	6.9	19.3	9.1	12.9
CO	0.434	0.287	0.279	0.748	0.363	0.529
CH <sub>4</sub>	0.023	0.015	0.014	0.029	0.019	0.027
PM <sub>2.5</sub>	0.043	0.029	0.028	0.075	0.036	0.052
PM <sub>10</sub>	0.051	0.034	0.033	0.089	0.043	0.062
PM	0.071	0.048	0.046	0.125	0.060	0.087
HAPC	0.019	0.012	0.012	0.022	0.016	0.023
VOC	0.022	0.015	0.014	0.039	0.019	0.027
NO <sub>x</sub>	0.030	0.020	0.019	0.062	0.025	0.037
OC	0.026	0.017	0.017	0.045	0.022	0.031
EC	0.003	0.002	0.002	0.005	0.003	0.004

Estimates PT, ES, FR, IT, GR (teragrams)

## EU Fire Database



## On-going improvements

Fire danger - Medium resolution (7 days forecast)

Fire danger - high resolution (3 days forecast)

## Reports and newsletters



## Studies and research on:

- Post-fire soil erosion
- Vegetation regeneration
- Analysis of fire severity
- Analysis of fire causes
- Socio-economic impact of forest fires
- Improvement of fuel maps
- Awareness raising campaigns

## EFFIS Network

AT - Austria  
BG - Bulgaria  
CH - Switzerland  
CY - Cyprus  
CZ - Czech Rep.  
DE - Germany  
EE - Estonia  
ES - Spain  
FI - Finland  
FR - France  
GR - Greece  
HR - Croatia  
HU - Hungary  
IT - Italy  
LT - Lithuania  
LV - Latvia  
PL - Poland  
PT - Portugal  
RO - Romania  
SE - Sweden  
SI - Slovenia  
SK - Slovakia  
TR - Turkey  
UK - United Kingdom  
FAO / Silva Mediterranea countries

In cooperation with



**UNECE**  
United Nations Economic Commission for Europe  
Silva Mediterranea

<http://effis.jrc.it>

Directorate-General  
Environment



**EUROPEAN COMMISSION**  
DIRECTORATE-GENERAL  
Joint Research Centre

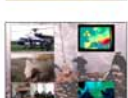






# The Global Wildland Fire Network

## United Nations International Strategy for Disaster Reduction (UNISDR)



Regional Wildland Fire Networks:  
 North America – Mesoamerica – South America – Caribbean – Mediterranean – Southeast Europe / Caucasus – Sub-Saharan Africa – South Asia – Southeast Asia – Australasia – Northeast Asia – Central Asia – Baltic

## The Regional South Asia Wildland Fire Network



### Fire Regimes and Impacts

Large-scale land-use change involving burning of native vegetation in the tropics

Change in wildland ecosystems. Deterioration of watersheds in Hindu Kush - Himalaya region, land-use change, climate change

Increasing occurrence of extreme weather (droughts and precipitation) and fire severity

Secondary disasters:  
Soil erosion and landslides

Secondary disasters:  
Flooding downstream in the Ganges basin

Increasing vulnerability to human populations, negative impacts in social and ecological systems

Increasing occurrence of uncontrolled fires as a consequence of climate change and altered natural fire regimes?

Global warming!  
Depletion of vegetation cover and terrestrial carbon

### International / Regional Initiatives / Needs

Foundation of the UNISDR Regional South Asia Wildland Fire Network under the auspices of the Global Wildland Fire Network (GWFN), UN International Strategy for Disaster Reduction (UNISDR), the UNISDR Wildland Fire Advisory Group (WFAAG) and its Secretariat, the Global Fire Monitoring Center (GFMC)



### Objectives of the Network:

Enhancing and strengthening cooperative resource mobilization in fire management for creating synergies and enabling environments, and sharing knowledge within a guiding framework

Cooperation for enhancement of local, national and regional fire management capabilities with:

UNISDR Global Wildland Fire Network, GFMC, FAO, UNFF, South Asian Association for Regional Cooperation (SAARC), Global Observation of Forest and Land Cover Dynamics (GOFC/GOLD)

Development of bilateral, multilateral and international (including inter-regional) cooperation mechanism between two or more countries and/or regions

Promotion of stakeholder participation and cooperation in fire management at all levels

Future Capacity Building in Community-Based Fire Management (CBFIM) for fire professionals and local communities to be built on expertise of GFMC, FAO, FINNIDA, and United Nations University (UNU)



Phase	Activities	Examples	Remarks
Pre-fire	Preparation	Assessment mapping Construction of fire-lines Prescribed burning Arrangement of fire-fighting tools and the training of fire fighting crews Risk assessment Insurance Maintenance of fire-house with essential material	Preventive measures Managing resources Ensure people's participation and livelihood Development of institutional structures, Planning, Policy and legislation
	Response	Fire detection Prompt Mobilization of fire crews Fire fighting Risk-finding Evacuation for higher safety	
	Recovery	Mapping-up Revegetation of burnt areas Shelter, food, water, medicines, counseling to the victims	
Post-fire			Rehabilitative measures Recovery and relief

### Fire management for:

Livelihood support, poverty reduction, sustainable land use, biodiversity conservation with people's participation



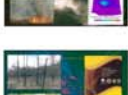
Photo credits: GFMC and Regional Network Archives

Network Website and Link to the Global Wildland Fire Network: [http://www.fire.uni-freiburg.de/GlobalNetworks/South\\_Asia/Front\\_RSAWN.html](http://www.fire.uni-freiburg.de/GlobalNetworks/South_Asia/Front_RSAWN.html)



[www.gfmc.org](http://www.gfmc.org)





Regional Wildland Fire Networks:  
 North America – Mesoamerica – South America – Caribbean – Mediterranean – Southeast Europe / Caucasus – Sub-Saharan Africa – South Asia – Southeast Asia – Australasia – Northeast Asia – Central Asia – Baltic

## The Regional Central Asia Wildland Fire Network

### Central Asia – Steppes and Forests shaped by Fire



Forests and steppe ecosystems of Central Asia have been shaped by natural and anthropogenic fire over millennia. Pine (*Pinus* spp.) and Larch (*Larix* spp.) forests show remarkable adaptations and dependence on recurrent fires. Distinct landscape mosaics have been created by fire. Forest management practices in the 20<sup>th</sup> Century have resulted in an increasing vulnerability of forests to large-scale and high-severity wildfires.

### Climate Change and Large Fires since the 1990s



The increasing recurrence of severe droughts – a consequence of regional climate change – coupled with increasing ignitions as a consequence of the rapid socio-economic and political changes in the past two decades have resulted in excessive occurrence of wildfires and considerable damages of forest ecosystems. The vegetation health maps (Source: NOAA) and satellite-derived fire maps from the late 1980s and 1990s are revealing the magnitude of the problem.

### Current Fire Early Warning and Fire Monitoring From Space



### Transboundary Issues: Wildfires and Fire Smoke Crossing the Borders

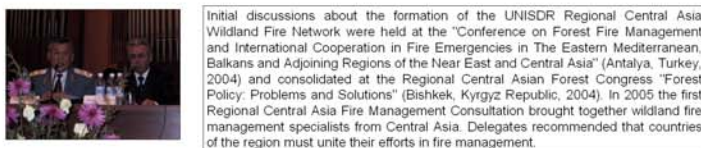


### Limitations and Opportunities to Strengthen Fire Management Capabilities



Management and reduction of severe and extended wildfires are a challenge to some of the young, independent nations of the region, which are lacking human and technical resources. Several bilateral programmes have provided initial assistance. Russia and Mongolia are part of the Eurasian Fire in Nature Conservation Network (EPNCN) recently entered the EU-sponsored Fire Paradox programme, aimed at introducing prescribed burning for stabilizing coniferous forest ecosystems in the region.

### Towards Enhancing Regional Cooperation in Fire Management



Initial discussions about the formation of the UNISDR Regional Central Asia Wildland Fire Network were held at the "Conference on Forest Fire Management and International Cooperation in Fire Emergencies in The Eastern Mediterranean, Balkans and Adjoining Regions of the Near East and Central Asia" (Antalya, Turkey, 2004) and consolidated at the Regional Central Asian Forest Congress "Forest Policy: Problems and Solutions" (Bishkek, Kyrgyz Republic, 2004). In 2005 the first Regional Central Asia Fire Management Consultation brought together wildland fire management specialists from Central Asia. Delegates recommended that countries of the region must unite their efforts in fire management.



Speakers and participants of the Regional Central Asia Wildland Fire Consultation, Irkutsk, Russian Federation, 8 September 2005



Network Website and Link to the Global Wildland Fire Network:  
<http://www.fire.uni-freiburg.de/GlobalNetworks/CentralAsia/CentralAsia.html>



[www.gfmc.org](http://www.gfmc.org)



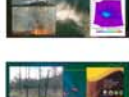


# The Global Wildland Fire Network

United Nations International Strategy for Disaster Reduction (UNISDR)



## The Regional Baltic Wildland Fire Network



Regional Wildland Fire Networks:  
 North America – Mesoamerica – South America – Caribbean – Mediterranean – Southeast Europe / Caucasus – Sub-Sahara Africa – South Asia – Southeast Asia – Australasia – Northeast Asia – Central Asia – Baltic

### Major Wildland Fire Issues in the Baltic Region



Temperate-boreal zone of the Baltic Region:  
 The pine (*Pinus sylvestris*) fire belt

Responsibilities shared by fire services and forest services. In general, the fire services are not adequately trained and equipped for wildland fire situations – emphasis often too much on traditional equipment or high-tech solutions

Increasing recognition of fire as a natural and cultural factor contributing to high biodiversity

Increasing recognition and acceptance of the use of prescribed fire in nature conservation and landscape management

Domestic and transboundary air pollution:

Major source of smoke transport to Western Europe: Eastern Baltic Region (Russia, Belarus) with increasing incidences of major air quality degradation and public health problems

Extended areas of high-conservation value, contaminated by unexploded ordnance from WW-II and on former military training sites

Wildfires in radioactively contaminated terrain in Belarus, Ukraine and Russia: Release of radioactive smoke particles

### The Baltic Region - Core Region of the UNECE / FAO Team of Specialists on Forest Fire



Network activities in the ECE region activated in 1981

Major networking efforts: Publication of International Forest Fire News (IFFN) in 1988

Support the UNECE region with forest fire statistical data

Establishment of the Global Fire Monitoring Center in 1998: Initiated in the Baltic Region

### Regional activities

UNECE/FAO Conference on Forest, Fire and Global Change (Shushenskoye, Russia, 1996)

UNECE/FAO First Baltic Conference on Forest Fires (Radom-Katowice, Poland, 1998)

UNECE Baltic Exercise for Fire Information and Resources Exchange (BALTEX FIRE 2000) (Kuopio, Finland, 2000)

### Major Networking achievements and ongoing Projects:

Cooperation between the wildland fire science community, practitioners and policy makers

Support of validation and calibration of the BIRD (Bi-spectral IR Detection) satellite mission



Introduction of the use of prescribed fire in forestry, nature conservation and landscape management in the Baltic Region: Creation of the Eurasian Fire in Nature Conservation Network (EFNCN).

Since 2006: Cooperatively with the EU Fire Paradox project (2006-2010) and the EU-LIFE programme

**FIRE PARADOX**



Introduction of advanced standards and competence-based wildland fire management training systems for European fire services. Since 2006: Cooperation between GFMC, the International Association of Fire and Rescue Services (CTIF) through the EU Leonardo Leonardo project



**CTIF**

Leonardo da Vinci European Training for the U.K.

Network Website and Link to the Global Wildland Fire Network:  
<http://www.fire.uni-freiburg.de/GlobalNetworks/BalticRegion/BalticRegion.html>  
 Website of the Eurasian Fire in Nature Conservation Network (EFNCN):  
<http://www.fire.uni-freiburg.de/programmes/natcon/natcon.htm>

[www.gfmc.org](http://www.gfmc.org)

