

The Global Fire Monitoring Center (GFMC)
**Associate Institute of United Nations University (UNU), Secretariat of the UNISDR Global
Wildland Fire Network and UNISDR Wildland Fire Advisory Group**
Including Lead of the UNECE/FAO Team of Specialists on Forest Fire (1993-2014)

Short Profile

31 January 2015

Following the recommendations of the UNECE/FAO/ILO Seminar *Forest, Fire and Global Change* (Russia 1996) and a number of international conferences (notably the Second International Wildland Fire Conference, Vancouver, Canada, 1996), the UNECE/FAO *Team of Specialists on Forest Fire* proposed the establishment of an institution which at that time was preliminarily designated as a *Global Fire Management Facility*. On the basis of these recommendations the Government of Germany through the Ministry of Foreign Affairs, Office for the Coordination of Humanitarian Assistance, in June 1998 provided initial funding for the establishment of the entity which was designated *Global Fire Monitoring Center* (GFMC), which initially operated in the 1990s as a contribution to the International Decade for Natural Hazard Reduction (IDNDR) and its successor arrangement, the UN International Strategy for Disaster Reduction (UNISDR). The GFMC was inaugurated at the FAO Meeting on *Public Policies Affecting Forest Fires* (Rome, October 1998).

The Global Fire Monitoring Center (GFMC) is an institution of the Max Planck Institute for Chemistry, Max Planck Society for the Advancement of Science, located on the campus of Freiburg University, Germany. Since 2005 GFMC is an Associated Institute of the United Nations University (UNU).¹ Since 2001 GFMC is serving as coordinator and facilitator of the UNISDR Wildland Fire Advisory Group and the UNISDR Global Wildland Fire Network, a global voluntary network that is providing policy advice, and science and technology transfer to enable nations:²

- to reduce the negative impacts of vegetation fires (“wildland fires”) on the environment and humanity; and
- to advance the knowledge and application of the ecologically and environmentally benign role of natural fire in fire-dependent ecosystems, and sustainable application of fire in land-use systems.

Under the UNISDR Global Platform for Disaster Risk Reduction the GWFN is serving as a “Thematic Platform”.³

GFMC provides a global portal for wildland fire documentation, information and monitoring and is publicly accessible through the Internet.⁴ The regularly updated national to global wildland fire products of the GFMC are generated by a worldwide network of cooperating institutions. Web-based information and GFMC services include:

- Early warning of fire danger and near-real time monitoring of fire events (this includes the currently developing Global Wildland Fire Early Warning System and a global portal to existing national, regional and global fire weather and fire danger rating systems)
- Interpretation, synthesis and archive of global fire information
- Support of nations and international organizations to develop long-term strategies or policies for wildland fire management, including community-based fire management approaches and advanced wildland fire management training for decision makers, especially in the prevention and preparedness of wildfire disasters

¹ <http://www.fire.uni-freiburg.de/programmes/un/unu/unu.htm>

² <http://www.fire.uni-freiburg.de/GlobalNetworks/globalNet.html>

³ <http://www.unisdr.org/partners/thematic-platforms>

⁴ <http://www.fire.uni-freiburg.de>

- Serve as advisory body to the UN system through the coordination of the UNISDR Wildland Fire Advisory Group⁵ and the UNISDR Global Wildland Fire Network
- Emergency hotline and liaison capabilities for providing assistance for rapid assessment and decision support in response to wildland fire emergencies under cooperative agreements with UN-OCHA, Emergency Services Branch, and the WSSD Environmental Emergencies Partnership.

Working at the interface between the science community and the user community the research and development work of the GFMC is targeted at providing capacity building and delivering problem-oriented products and solutions. The contribution of the GFMC to the UNU mandate includes applied research for the development of concepts for capacity building in advanced wildland fire management. Depending on projects and requests the GFMC services are covering:

- Methods of science and technology transfer for application in local fire management (wildland fire prevention, preparedness, suppression, rehabilitation) under different cultural, socio-economic and ecological environments
- Methods and application of people-centered participatory fire management (Community-Based Fire Management)
- Development of national strategies and policies for wildland fire management, including legislation
- Development of standards for international cooperation in wildland fire management (fire management guidelines, common terminology, standard procedures for cooperation in wildland fire emergencies)
- Training courses for international wildland fire management specialists, including experts for assessment and intervention missions
- Global fire assessments (e.g., for FAO in 2000 and 2006)⁶

GFMC is participating in a number of initiatives and projects led by UN agencies and other international organizations, e.g.

- Wildfire emergency preparedness and response through the UNEP/OCHA Joint Environment Unit (JEU), Emergency Services Branch⁷
- UNFCCC Nairobi Work Programme
- UNISDR-led Partnership for Environment and Disaster Risk Reduction (PEDRR), with main emphasis of outreach work in fire management in developing countries
- GFMC has signed Letters of Agreement or Memoranda of Understanding on collaborative work with the WHO and FAO
- UNESCO was main sponsor at the foundation of GFMC in 1998 and is a partner of activities to protect cultural and natural heritage assets against destruction by wildfires⁸
- Cooperative work with the International Tropical Timber Organization (ITTO) since the 1990s⁹
- GFMC is member of the Network of Specialised Euro-Mediterranean Centres of the European and Mediterranean Major Hazards Agreement (EUR-OPA), Council of Europe¹⁰
- Policy advisor and field implementation for the Environment and Security Initiative (ENVSEC), under the auspice of the Organization for Security and Cooperation in Europe (OSCE)¹¹
- Project implementation partner of donor / development aid organizations (e.g., GIZ)

Since 2008 the GFMC is serving as Secretariat of the International Fire Aviation Working Group (IFAWG), a consortium of countries with major aerial firefighting assets working under the umbrella of the UNISDR Wildland Fire Advisory Group.¹²

Most recently the GFMC work is focusing on reducing threats to human health and security caused by vegetation fire smoke and by fires burning on terrain contaminated by unexploded ordnance, land

⁵ <http://www.fire.uni-freiburg.de/GlobalNetworks/Rationale-and-Introduction-1.html>

⁶ <http://www.fire.uni-freiburg.de/programmes/un/fao/fao.htm>

⁷ http://www.fire.uni-freiburg.de/emergency/un_gfmc.htm

⁸ <http://www.fire.uni-freiburg.de/programmes/un/unesco/unseco.htm>

⁹ http://www.fire.uni-freiburg.de/programmes/itto/itto_start.htm

¹⁰ <http://www.coe.int/en/web/europarisks/gfmc>

¹¹ http://www.fire.uni-freiburg.de/GlobalNetworks/SEEurope/SEEurope_8.html

¹² <http://www.ifawg.org/>

mines and radioactivity, and wildfires occurring as collateral damages of armed conflicts. In this regard the GFMC is meeting the UNU mandate to address peace and development, and post-crisis humanitarian and environmental problems. The political and capacity building outreach work is financed through dedicated projects by a large variety of sponsors.

Between 1993 and 2014 the GFMC coordinated the thematic work under the UN Economic Commission for Europe (UNECE) by leading UNECE/FAO Team of Specialists on Forest. The work of the Team focused on providing guidance to member states through transboundary cooperation in fire management.

UNECE/FAO Regional Forum on Cross-Boundary Fire Management

In 2013 the GFMC had been entrusted by the United Nations Economic Commission for Europe (UNECE) to prepare and organize the UNECE/FAO Regional Forum on Cross-boundary Fire Management (28-29 November 2013 at the United Nations in Geneva). The Forum was attended by 22 UNECE Member States and representatives from other regions, non-government organizations, regional and international organizations (ASEAN Secretariat, SADC Secretariat, Council of Europe, OSCE), and the United Nations (UNECE / FAO Forestry and Timber Section; FAO; UN Office for Disaster Risk Reduction / UNISDR; OCHA Environmental Emergencies Section, Joint UNEP/OCHA Environment Unit, Emergency Services Branch; Secretariat of the UNECE Convention on Long-Range Transboundary Air Pollution). The main objective of the Forum was to elaborate recommendations to UNECE member states and the international community to build resilience of nations and communities to wildfire emergencies and disasters by enhancing national and collective international fire management capability through exchange of expertise.

Based on the discussion of several preparatory studies and documentations, the participants of the Forum came up with a set of recommendations that are published on the website of the UNECE/FAO Team of Specialists on Forest Fire.¹³

The recommendations addressed among other:

1. Need for the promotion of the understanding of and the response to the transboundary effects of fire
2. Need for expanding the scope and strengthening of international cooperation in fire management
3. Application of a holistic approach to wildland fire management at landscape level
4. Adoption and continued development of the International Wildfire Preparedness Mechanism (IWPM) and the Voluntary Fire Aviation Guidelines
5. Need for the exploration of options for the transition from voluntary rules to a more formalized regulatory framework, including the "exploration of options to establish a UN Secretariat mandated with the implementation of a global fire management programme that should have a key role in facilitating the free and open global transfer of knowledge".
6. Suggestion to seek the interest of UN Organizations to become involved.

During 2014 the GFMC followed up working, regional with the United Nations family and international organizations on three main scenarios at various time scales:

1. Long-term Perspective: Development of an International Agreement on Cross-boundary Fire Management
2. Medium-term Perspective: Creation of an International Wildfire Preparedness Mechanism (IWPM) and introduction of the "Voluntary Guidelines for Fire Aviation"
3. Short-term Perspectives (I): Future of global cooperation efforts by the Global Fire Monitoring Center (GFMC) and the Global Wildland Fire Network (GWFN) in partnership with the United Nations and international organizations including NGOs.

In November 2014 the International Wildfire Preparedness Mechanism (IWPM) was launched. The IWPM, currently hosted by the Global Fire Monitoring Center (GFMC), is a non-financial instrument serving as a broker / facilitator between national and international agencies, programmes and projects to exchange expertise and build capacities in wildland fire management and particularly in enhancing

¹³ <http://www.fire.uni-freiburg.de/intro/team.html>

preparedness to large wildfire emergency situations. The IWPM has been developed in tandem with the International Fire Aviation Guidelines and the International Manual of Common Rules for Fire Aviation.¹⁴

The IWPM contributes to the UN World Conference on Disaster Risk Reduction (Sendai, Japan, 14-18 March 2015)¹⁵ by;

- GFMC Voluntary Commitment aimed at delivering concrete results towards the Post-2015 Framework for Disaster Risk Reduction¹⁶
- GFMC presentation by the German delegation¹⁷
- Reference to the global alert to climate change (UNFCCC COP 20, Lima, Peru, 2014)¹⁸

Recent major publications of GFMC include:¹⁹

- Goldammer, J.G. (ed.). 2013. Vegetation Fires and Global Change. Challenges for Concerted International Action. A White Paper directed to the United Nations and International Organizations. Kessel Publishing House, Remagen-Oberwinter, 398 p. (ISBN 978-3-941300-78-1). <http://www.forestrybooks.com/>
- Online version (low resolution): <http://www.fire.uni-freiburg.de/latestnews/Vegetation-Fires-Global-Change-UN-White-Paper-GFMC-2013.pdf>
- Bowman, D.M.J.S., J.A. O'Brien, and J.G. Goldammer. 2013. Pyrogeography and the global quest for sustainable fire management. Annual Review of Environment and Resources 38, 57-80. First published online as a Review in Advance on 9 August 2013. DOI: 10.1146/annurev-environ-082212-134049. <http://www.annualreviews.org/eprint/awKnKUN8XQ8vCHHWYB6g/full/10.1146/annurev-environ-082212-134049>
- Goldammer, J.G. (ed.) 2013. Prescribed Burning in Russia and Neighbouring Temperate-Boreal Eurasia. A publication of the Global Fire Monitoring Center (GFMC). Kessel Publishing House, 326 p. (ISBN 978-3-941300-71-2). <http://www.forestrybooks.com/>
- De Ronde, C., and J.G. Goldammer. 2015. Wildfire Investigation. Guidelines for Practitioners. A publication of the Global Fire Monitoring Center (GFMC). Kessel Publishing House, 131 p. (ISBN: 978-3-941300-99-6) <http://www.forestrybooks.com/>

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¹⁴ <http://www.fire.uni-freiburg.de/iwpm/index.htm>

¹⁵ <http://www.wcdrr.org/>

¹⁶ <http://www.fire.uni-freiburg.de/GlobalNetworks/GFMC-Voluntary-Commitment-WCDRR-2015.pdf>

¹⁷ <http://www.fire.uni-freiburg.de/GlobalNetworks/GFMC-Contribution-WCDRR-2015.pdf>

¹⁸ <http://www.fire.uni-freiburg.de/intro/UNFCCC-COP-20-Outreach-Message-Day-3-Vegetation-Fires.pdf>

¹⁹ http://www.fire.uni-freiburg.de/latestnews/recent_pub.htm