Wildland fires: Baltic region

Johann G Goldammer reports on recent developments in the Baltic region where places with a usually temperate climate are witnessing an increase in incidents of wildfire

IN THE EARLY 1990s COUNTRIES belonging to the region of the United Nations Economic Commission for Europe (UNECE) created a platform for information sharing in fire management (see box p57). A major focus of networking is among the countries that are bordering the Baltic Sea and neighbouring Western Europe. Clearly, in comparison with the occurrence of wildfires and area burned in the Euro-Mediterranean region, the countries of Western, Central and Northern Europe are less affected. However, in 2008 alone, several large forest fires reminded the public that those European countries, which are characterised by a temperate climate, are becoming increasingly vulnerable to wildfires. Furthermore, Europe is occasionally affected by wildfire smoke from neighbouring regions – as happened in May 2006, when the Nordic countries and even Scotland were blanketed by smoke from fires burning in Western Russia. In the Baltic region the vast majority of fires are caused by people, simply through carelessness and accidentally – merely one to three per cent of wildfires in Europe are caused by lightning.

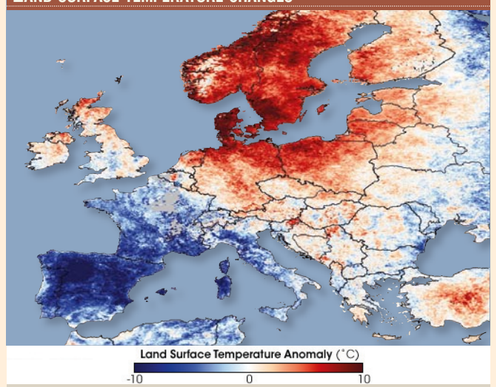
In 2008 Norway experienced its worst wildfires since World War II. More than 2,000 hectares (20km^2) of forests were burned in early June 2008 in Froland, Aust-Agder County, in the Southeast of the country – despite the efforts of about 100 firefighters and the deployment of 16 helicopters – resulting in damages of more than €10 million (£8.9m; $12.9m). More than 60 people had to be evacuated. At the same time, Sweden was confronted with a similar situation in the centre of the country, circa 350 kilometres (217.5 miles) north of Stockholm. While the fires in Sweden affected unpopulated areas, the situation in Ireland was different. A country that is usually wet rather than tinder dry – a large forest fire affected about 1,000 hectares (10km^2) of intensively managed Coillte (Ireland's largest forestry company) and privately-owned forests in Glenamoy, causing an estimated damage of over €1 million (£89,000; $1.3m) – one of the worst forest and gorse fires ever to hit the region. In the same week Germany was confronted with a large wildfire near Jüterbog, south of Berlin. Since the fire burned in terrain contaminated by unexploded ordnance from WWII, heavy armoured equipment, as well as aerial support, had to be called in to help fight the blazes.

> Besides the loss of valuable biodiversity, abandoned land constitutes an increase in wildfire hazard

Soon after the fires in Norway and Germany, nature conservationists called for the protection of the fire-disturbed sites. Why was this? In large parts of Europe the historic use of fire and other disturbances have contributed to the shaping of landscape patterns of high ecological and cultural diversity and value, eg heathlands, open grasslands, meadows, and swidden (shifting) agriculture sites, as well as open and stress-resilient forest ecosystems.

The rapid socio-economic changes in the past four to five decades and the recently increasing trend of rural exodus all over Europe, however, have resulted in the abandonment of traditional land use methods. With the elimination of these disturbances by cultivation, including traditional burning practices, large areas of Europe are converting to fallow lands, a process that is associated with ecological succession towards brush cover and forest, and an overall loss of open habitats. Besides the loss of valuable biodiversity, abandoned land constitutes an increase in wildfire hazard – a trend that is revealed by a growing number of extremely severe fire disasters. Similarly, the exclusion of fire in natural ecosystems such as northern boreal and sub-boreal coniferous forests in Europe/Eurasia, has resulted in changing vegetation composition and an increase of wildfire hazard. Changing paradigms in ecology and nature conservation have led to the need to reconsider fire-exclusion policies in certain sectors of land/landscape management, nature conservation and forestry.

Land surface temperature changes



In early June 2008 much of northern Europe was affected by anomalous high temperatures. This image shows land surface temperatures as observed by the Moderate Resolution Imaging Spectroradiometer (MODIS) on NASA's Terra satellite between June 2-8, 2008. The image compares the average temperature between June 2-8, 2008, to average temperatures recorded during the same period in June 2000 through 2007. Areas that were warmer than average are red, while cooler than average conditions are represented in blue. The red-marked regions of Europe provided conditions allowing accidental fires to develop high intensities that often could not be controlled easily, thus resulting in large areas burned

NASA Earth Observatory

About the Regional Baltic Wildland Fire Network

*The Regional Baltic Wildland Fire Network was set up under the umbrella of Global Wildland Fire Network (GWFN) under the auspices and as an outreach programme of the UNISDR. The network is the core zone of the larger region of the United Nations Economic Commission for Europe (UNECE) in which the Team of Specialists on Forest Fire, mandated by the member states of the EU and by the UN, has been fostering the international dialogue in fire management since the early 1980s. Since the ECE region includes all countries of North America (US, Canada), Europe and Eastern Europe (including all CIS countries), ie almost the major part of the Northern Hemisphere, a number of regional networks emerged that are focussing on specific regional fire problems. Part I of the series of reports from the regions (*CRJ *3:4) provided an overview map of the Global Wildland Fire Network on which the regional networks within the greater UNECE region are delineated (North America, Mediterranean, Southeast Europe/Caucasus; an additional network has been formed between the 27 member states of the EU and very recently a Pan-Asian wildland fire network). Members of the Baltic network comprise primarily all countries bordering the Baltic Sea, but also neighbouring countries of Western Atlantic Europe and the landlocked neighbour Belarus. After the regional exercise BALTEX FIRE 2000 and the regional wildland fire consultation in 2004 (both hosted by Finland), the main emphasis in the Baltic region is on the use of fire in the maintenance and restoration of natural and cultural landscapes of the region.*

The EuroFire project, sponsored by EU Leonardo, is an important collaborator and provides a basic level competency-based training resource that firefighters, the rural and land-based sector, sectoral organisations and education and training institutions can use to update their knowledge, learn new skills or increase their understanding of advanced wildfire management techniques.

Ordnance

The report of the Southeast Europe/Caucasus region (*CRJ* 4:1) revealed problems of unexploded ordnance (UXO) and landmines in the battle against forest fires. Similarly, the Baltic region and adjoining Belarus and Ukraine are confronted with land contamination by UXO and radioactivity. While most of the UXOs are remnants of the last World Wars and the exercise and shooting ranges of the Cold War era and cause significant problems in firefighting, the radioactivity in forests contaminated by the Chernobyl nuclear accident of 1996 is concentrated on Belarus and Ukraine. Fire emissions carry radioactivity from the contaminated sites and are threatening CRJ

Confronting the threat

Since the late 1990s the Eurasian Fire in Nature Conservation Network (www.fire.uni-freiburg.de/programmes/natcon/natcon.htm), a major initiative of the UNISDR Regional Baltic Wildland Fire Network, has provided a platform for the development of integrated fire management practices. Together with the research project 'Fire Paradox', sponsored by the European Commission, more technologies of fire use (prescribed burning) for wildfire hazard reduction are refined and handed over to practitioners of 11 European countries and partners in North Africa, Argentina, South Africa, Russia and Mongolia.

Encroachment of birch and pine trees are threatening open landscape habitats and their rich biodiversity. Prescribed fire is following old land use traditions on a renewed scientific basis and ensures the survival of disturbance-dependent species

Disposed firefighting trucks and helicopters in the Chernobyl Exclusion zone reveal the severity of radioactive contamination. Fires burning in the forests around Chernobyl are posing incalculable threats to people

All pics: GFMC

Author

Professor **Dr Johann G Goldammer** *is head of the Global Fire Monitoring Centre (GFMC) and professor for fire ecology at Freiburg University, Germany, and the United Nations University (UNU). He co-ordinates the UNISDR Wildland Fire Advisory Group. The GFMC, which facilitates the UNISDR Global Wildland Fire Network (*CRJ *3:4), was awarded the UN Sasakawa Award for Disaster Reduction in 2001 and is in charge of leading the UNECE/FAO Team of Specialists on Forest Fire since 1993. http://www.fire.uni-freiburg.de/intro/team.html and http://www.fire.uni-freiburg.de/GlobalNetworks/BalticRegion/BalticRegion.html*