

The Global Wildland Fire Network: 2016 IN REVIEW

A round-the-world reflection on working with and facing off fire: where we're at, and directions we're headed

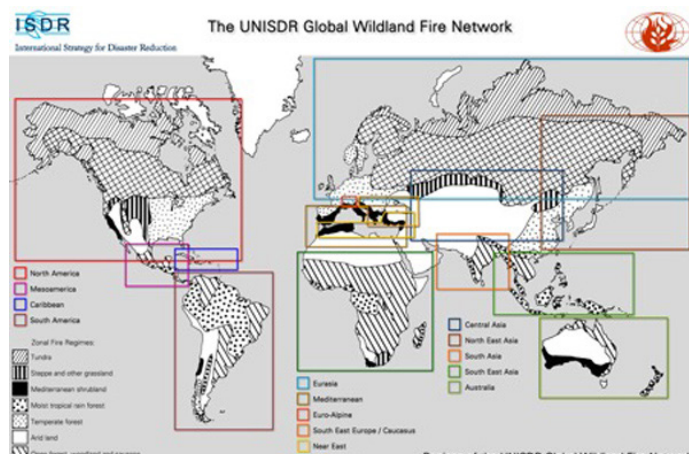
By *Lindon Pronto*
Global Fire Monitoring Center

Wildland fire is a global phenomenon and often one of our most challenging and intractable environmental challenges – for communities, nations, landscapes and our climate, air, and watersheds. Nearly a year ago, when I profiled some of the overall challenges that fire managers around the world face in “Local Fires, Global Worries” (Wildfire Magazine, January-February 2016), not only were the negative consequences of fire highlighted, but some insights on successes too. Community-led fire management, for instance, offers solutions from Ghanaian villages to the suburbs of Boise Idaho.

Last October (2015), when the 6th International Wildland Fire Conference was held in South Korea—a gathering of international fire management professionals, it could not have come at a better time considering the Climate Treaty negotiations in Paris in early December 2015. At the time, I also reported on the impacts of vegetation fire emissions on climate (and climate change)—a discussion that was suddenly no longer insulated within our own fire community due to global media attention on Indonesia’s disastrous fire-smoke season, triggered by the El Niño drought and the continuing excessive use of fire in land-use change. Vegetation fire, a previously less visible topic in the context of global emissions discussions, was quickly put back on the global agenda. Studies on fire and emissions and health consequences became news headlines the day they were accepted into journals.

Cycles of media and political attention come and go on major fire events—the attention nearly always on Western wildfires—but in the sensitive carbon- and biodiversity-rich peat ecosystems of Indonesia the last comparable event was in 1997-98. During the late 90s and early 2000s, there was a rush of international development aid, capacity building and expert consulting along with major monetary investments into the region. Yet many of those fire folks that ended up over there at the time, and who never left the region, will corroborate that despite international efforts, not a whole lot changed in the past 17 years. Finally, the political will seems to have shifted, and the Indonesian government has taken major steps in the past months—for instance, by tasking the newly installed Peatland Restoration Agency to restore illegally drained, burned and exploited protected peat lands, and government has begun prosecuting and fining companies huge sums of money, suspending or revoking plantation licenses.

As for the rest of us, our collective understanding of the impacts of fire in this region, and on sensitive peat ecosystems—a carbon sink, the whole world leans on—has been on the rise. Greater attention has been brought to some of the root causes such as social conflicts, land-use rights, corruption, or the role of multi-national palm oil and pulp and paper corporations in deforestation, draining peatlands, and setting illegal fires to pave the way for plantations. Even consumers and supply chains have taken action through boycotts and product branding schemes. We now have more sophisticated satellite monitoring capacity, smoke emissions modeling, and even the use of drones to show the extent of fire damage. Aside from a shift in political will, this example of Southeast Asia highlights the growing importance of science and technology for fire management—an evolution in scientific understanding and technical innovation (think also social media) which resulted in a very different response to a nearly identical disaster—nearly 20 years on.



This world map shows the delineation of the Regional Wildland Fire Networks. The vegetation types correspond to characteristic fire regimes in the regions that are described in the background documents on the regional network web pages. The “Global Wildland Fire Network” consists of a set of Regional Networks that had been in place for some time or were initiated since 2001.



Opening of the Fire Management Week by Colonel Ghasem Sabz Ali, Commander of the Forest Guard, Forests, Range & Watershed Management Organization (FRWO); Islamic Republic of Iran. Training Website including Picture Gallery here. Photo: FRWO

Science and Technology

In January 2016, the UNISDR Science and Technology Conference, as part of the implementation strategy of the Sendai Framework for Disaster Risk Reduction 2015-2030, was held at the United Nations in Geneva. The conference saw our international fire management community represented: the Global Fire Monitoring Center (GFMC) and the Global Wildland Fire Network is serving as a thematic partner for the implementation of the Sendai Framework and assisting UN member states with combining science and technology and bridging it with the practitioners and local communities as a crucial activity of disaster [impact] reduction and fire management in general. Evident either for fiduciary considerations like the current “fire-borrowing” discussion in the U.S. Congress, or for humanitarian dimensions, fire has increasingly become a part of the international dialogue on Disaster Risk Reduction.

Developing capacity

Not all parts of the world are blessed with the sophistication and capacity as say, the U.S., Canada and Australia (aka the “Big Three”). With a changing and warming climate, some regions and nations are just recently discovering they have a fire problem, and furthermore, that they need to first develop the political awareness and technical infrastructure to cope with the emerging (mostly drought induced) wildfire challenge. In May of 2016, the First International Fire Management Week— a national round table on fire management and training on Integrated Fire Management

(IFM) was held in the Islamic Republic of Iran. These activities were conducted by the GFMC, the Regional SE Europe / Caucasus Fire Monitoring Center, and the Fire Management Resource Center of the Central Asia Region. Vegetation fire regimes in the Middle East and neighboring regions (i.e. Caspian Sea, South Caucasus, Near East, Balkans and Central Asia) are becoming increasingly affected by climate change and socio-economic and land-use changes. These changes include increasingly severe wildfires— which for countries like Iran, pose a serious challenge. In general, with the Middle East being a non-destination for many forms of cooperation and capacity building in fire management, such a round table and training course was a significant happening; it is good to see Iran included in the global fire family.

Cross-border cooperation and international sharing of expertise is critical for countries that have limited capacities in fire management. Even with technical capacity and training aside, one of the major obstacles for such collaborations are language barriers. While not relevant for everyone in all regions, some basic guidelines, terminology and SOPs can break down some of these barriers. In early 2016, the EuroFire competency standards, best practices, and trainings were translated into Persian and introduced to the authorities of IR Iran. Their application for capacitating local administrations and rural communities in the safe and efficient control of wildfires was encouraged; at future regional trainings, the materials will also be used for cross-boundary training as practiced in joint regional trainings in Turkey, attended by up 10 nations in 2010 and 2014. The EuroFire materials are meanwhile now available in 14 languages for the use in over 50 countries globally.

Working across borders

Challenges in capacity can be best overcome through local, national and international collaboration and cooperation. This understanding prompted the organization of the First Regional Symposium on Cross-Boundary Cooperation in Fire Management in South America. The event took place between May and June 2016, and was hosted by Uruguay and attended by officials from state agencies responsible for fire management in Argentina, Brazil, Chile and Paraguay. The participants developed recommendations for the development of protocols and standards for systematically enhancing interoperability for cases of cross-border cooperation in addressing wildfire emergencies in South America. Here too, the EuroFire competency standards (e.g. baseline understandings like LCES, fireline construction methods, ignition patterns etc.) were presented in the Spanish and Portuguese (Brazilian) languages to be used in the future to prepare firefighters for international missions. Also the concept of the International Wildfire Preparedness Mechanism (IWPM) and state of development of the International Fire Aviation Guidelines (IFAG) that are aiming for improving aerial firefighting safety, effectiveness and efficiency and creating the conditions for international interoperability of aerial firefighting missions, were presented. Typical of such a symposium to bring regional actors together, is the subsequent outreach work which is followed up at national level by GFMC and Network members—in this case a National Round Table on Fire Management in Uruguay. This outreach and facilitation support-work at a national level, builds relationships and confidence for future collaboration with current and proposed regional fire management resource centers.

Once strides in cross-border fire management diplomacy among countries are underway, the practical means of cooperation in fire suppression can be addressed. That is where the IWPM, the EuroFire competencies and the IFAG come into play. Internationally (e.g. in the Mediterranean region), one of the most borrowed assets are aviation resources. Fire aviation is also extremely costly and accounts for one of the highest fatality rates in the business. As you may know from your own experience, even in the extremely well-greased air-to-air and air-to-ground operations in the Western United States, it is a very complex work environment that depends on skill and communication (both on the ground and in the sky) to carry out operations safely and effectively. Coordination of fire and aviation resources under circumstances of language barriers, varying rules, experience levels etc. can easily present unsafe situations or prompt flat-out refusals by officials or pilots to engage. The IFAG begins to address these sorts of challenges. As an example, in September 2016, the U.S. Forest Service, GFMC, and the Regional SE Europe Network / Caucasus Fire Monitoring Center (RFMC), teamed up for a training course on “Enhancing Ground and Aerial Forest Fire Suppression Capacities in the Former Yugoslav Republic of Macedonia” to introduce the IFAG and International Manual of Common Rules for Fire Aviation. This event will be followed up in November 2016, with a regional consultation on cross-boundary fire management in the Western Balkans.

Heavy dependency on aerial firefighting assets is a luxury and not a given in some parts of the world. The cost of an ‘airshow’ on a single California fire may exceed the total annual fire suppression budget for an entire country elsewhere. Nepal is a great example of an extremely economically disadvantaged nation, but still being a leader in fire management by employing exemplary and

effective community-led fire management, combined with an ambition to strengthen regional cooperation in the South Asia region. In early October 2016, Nepal hosted a Workshop on Cross-Boundary Cooperation in Fire Management for South Asia which produced the Godavari Resolution. This activity brought together the usual docket of agencies responsible for fire, forest resources, and the scientific community; however, it was also supported by international interests like the Korea Forest Service through the National Institute of Forest Science (NIFoS)—with assistance from the GFMC and the U.N. International Strategy for Disaster Reduction (UNISDR).

International priorities and areas of concern

In the neighboring network of Southeast Asia (as mentioned earlier), activities and efforts are ramping up, particularly in Indonesia following last year’s deadly fire and smoke episode. Even at the late-2015 Paris Negotiations, there was no lack of incentive for wealthy nations to target global emissions reductions by heavily investing in one country responsible for a significant share in global emissions as a result of human induced fire. Between August and September 2016, the International Workshop and training course “Forecasting Emissions from Vegetation Fires and their Impacts on Human Health and Security in South East Asia”, was held in Jakarta, Indonesia. While once again, an array of actors participated, sponsored and assisted in organizing—the workshop was comprised mostly of members of the scientific community in the arena of atmospheric modeling; the primary sponsor was the World Meteorological Organization (of the U.N.) and hosted by the Indonesian Agency for Meteorological, Climatology and Geophysics (BMKG). In addition to the workshop, the GFMC conducted a number of side-talks with the Ministry of Environment and Forestry and the Peat Restoration Agency (BRG) in preparation of planning for the establishment of the Regional SE Asia Fire Management Resource Center (more to come to Wildfire Mag in Spring 2017).

The socio-economic, political and environmental complexities—and international implications of the situation in Southeast Asia, might just be the Niger Delta of fire management. However, such high-profile complexities exist even in two of the most sophisticated fire management settings: The U.S. and Canada. The growing wildland-urban interface challenge stayed pretty well in the headlines this summer and spilled into the halls of Congress (at least more seriously than in recent memory). Between 2015 and 2016, Californian towns were razed—yet any single incident was hardly comparable to the Canadian Fort McMurray fire devastation that, beyond the physical damage, has had a marked psychological toll, impacted the entire country’s GDP, and even has the (re)insurance agencies rethinking how they do business.

A country with much in common with Canada is Russia. The northern boreal forests circling the Earth’s high latitudes may be a much bigger ticking carbon bomb than the draining of peatlands or the drying of the Amazon. You may have recently seen some news snippets or NASA satellite imagery of unchecked fires burning millions of acres in Siberia. In the next issue of Wildfire Magazine, Johann Georg Goldammer, Director of the GFMC, will feature some news from the Eurasian region, addressing the fire management challenges in Eastern Europe, Central Asia, and

delve into the exceptional challenges in the Russian Federation which have very global implications.

While a changing climate and shifting fire regimes present challenges universally, some regions struggle with more localized challenges. For instance, some countries have reported a spike in human-caused fires as a result of the refugee crisis in the Middle East. Sometimes, the threat of wildfire can combine with an existing threat, such as landscapes littered with munitions and UXOs from old artillery ranges or past armed conflicts. Another notable example is the threat posed by vegetation fires consuming terrain in the radioactively contaminated Chernobyl Exclusion Zone in Ukraine—an issue that caught international news attention in 2015 when several fires threatened the old reactor site. Radioactive smoke transport into Russia or the European Union was a major concern (more on this in the next issue).

Moving toward solutions: Launching Regional Fire Management Resource Centers

A recent development towards addressing these international fire concerns, is the effort to establish several new specialized Regional Fire Management Resource Centers in South America, Sub-Saharan Africa, South Asia and Southeast Asia. Like the currently operational centers in Southeast Europe (based in

FYR Macedonia), Eastern Europe (Ukraine) and Central Asia (Mongolia), these centers are to expand local to international cooperation and response mechanisms, facilitate cross-sectoral communication and exchanges of information and technical and scientific expertise, facilitate training programs and especially enhance local and regional capacity by promoting principles of Integrated Fire Management.

In pursuing this objective, 2016 has been (and continues to be) a very productive year for the Global Wildland Fire Network, as it serves to help reduce the negative impacts of vegetation fires, and promote the benign application of fire, in all corners of the globe. Just as on the fireline, open and ongoing communication is key for advancing awareness of fire management challenges and successes. For the fire manager, keeping in touch with personal networks, expanding them and taking the occasional moment to look outside one's own forests, regions and borders can have an impact; from study tours to aiding entire countries in establishing or enhancing fire management capacity. While there may not be a method or single forum for tracking these evolutions, the GFMC Calendar provides a sample of international efforts by many in the global fire community. For ongoing coverage of significant or noteworthy incidents around the world, the 'Current' and 'Media' tabs on the GFMC website is also updated daily. Just as fire knows no borders, when we work as a global fire community, we can build capacity and help each other grow, or if need be, lean on each other in times of crisis.



Air-ground coordination in wildfire suppression operations: Display of helicopter aerial fire suppression capabilities at Skopje Airbase, Former Yugoslav Republic of Macedonia. Photo: RFMC