Session 1: Wildfire Risk Assessment and Management

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Paolo has summarised the climatic conditions throughout Italy and how this impacts on fire events. A quick visit to the Met Office Website simply tells us that the UK has a “Unique Climate”. In general terms, the Po valley seems climatically closest to the UK with its cold wet winters and hot damp summers, though, perhaps we should replace ‘hot’ with ‘warm’ for the UK. In part this explains why our ‘wildfire’ experience is more ‘mild-fire’ when compared to the Mediterranean countries. In general it would appear that our fires are less frequent, less severe and much smaller than those in Italy. In 1981 2300 sq km were lost to wildfire. This is almost the total area of Dorset (2573 sq km). One of the present shortfalls in the UK is that we do not record the type or location of ‘outdoor fires’ accurately.

I have already stated that the UK probably compares most closely with the Po valley, which has a comparatively low fire density, so why should we be concerned? If we cast our minds back to FIRES2 we will remember the discussion on climate change and how it might affect our wildfire risk. This was summarised by Vladimir (Krivtsov) who states that “British climatic conditions may, therefore, change somewhat towards current conditions in the Mediterranean region.” He, rightly, goes on to state that this is by no means certain and that the UK differences in flora and atmospheric conditions may not necessarily lead to the same wildfire regime.

We could not yet claim that the UK and Italy share the same climate, nor vegetation, therefore it is safe to assume that the wildfire regime will be different. Indeed Paolo’s chart on Vegetation effect demonstrates that 45.9% of the total area destroyed by wildfire annually is forested. This percentage must be considerably less in the UK, with fires in plantations and, particularly, deciduous species almost unheard of. If climate change follows its predicted course, then what will the future of wildfires be in the UK? It is unlikely that relatively immobile species such as Tree Heather will migrate, but one could assume that highly combustible species such as Gorse will flourish. This single species is responsible for the hottest, most dangerous fires in Dorset. Heather is unlikely to present a greater risk than it already does, particularly in well managed upland moors where Muir burning keeps the heather growth in
check. What role will other species play that are currently of a low hazard such as Rhododendron and Laurel? If a new hotter, drier climate in the UK enables deciduous species to burn will they become ladder fuels leading the fire to our forest canopies?

Another issue that may have a greater impact on risk analysis in the UK than in Italy is population density. As our urban fringe increases so does the risk of fires. Dorset demonstrates that where heathland is in close proximity to the conurbation the perceived value of that heathland is far less than where it is remote. Urban heaths are visited by very high numbers of local people with the sole intent of emptying their dog. The wildlife, landscape or wider amenity value of the heaths means little to them. In contrast the rural heaths are visited by fewer people, but they hold the heathland landscape in high regard and take greater care. Fires do occur and they can often grow rapidly due to their remoteness. However, even in Dorset, housing is creeping ever closer to these remote heaths, bringing with them the urban problems.

As Paolo points out, mitigation measures are required in preparation for a wildfire event. In Dorset the Interim Planning Framework is being used to fund mitigation measures and alternative recreation sites are being provided where dogs can be exercised.

All of the aforementioned factors will need to be considered in a UK approach to wildfire prediction. The value of the work undertaken by Paolo and his colleagues at CIMA should not be underestimated. However, some of you will not be surprised that in Dorset we take a rather simpler, low tech approach! Our fire risk prediction system is based on two simple factors, likelihood and severity. These are expressed in high, medium and low terms. On a daily basis the Urban Heath Partnership staff check their diaries to see if the school pupils are on holiday or not. If they are then the likelihood of a fire starting is high. They then check the humidity by carefully examining the seaweed hanging in the porch. If its limp then the severity is low, if its crispy then its high. We really do like to keep things simple in Dorset. However, since we started work on the urban heaths in 2002 we have been able to reduce the number of unwanted fires by 62%. And the numbers are still dropping.

I’m not sure how much of this is due to our seaweed forecasting, but I am very sure that the data we have been collecting has had an impact. And I think that this is where we need to improve in the UK, better data. We cannot build models without data, we cannot target problem areas without data, we cannot forecast without data. It is also clear that the place to start recording data on wildfires is the Fire and Rescue Services Incident Recording System. We need to be able to identify the location, type and area of habitat that has been lost to fire. This only needs to be in
broad terms, deciduous forest, coniferous plantation, heathland/moor, grass, crops etc. Our colleagues in projects such as the Urban Heaths Partnership or the National Parks can fill in the detail.

Where should we go from here?

This four seminar series has been a very good start.

- FIRES2 made us consider the potential impact of climate change on the wildfire status of the UK.
- FIRES3 is making us consider how to forecast and model the current, and future wildfire risk. Dorset is succeeding without science but this is not the way forward, hopefully tomorrow will enable us to put the science into practice.
- FIRES4 may provide some of the answers to how we should better manage our current risk and to enable us to be better prepared for what the future may hold.