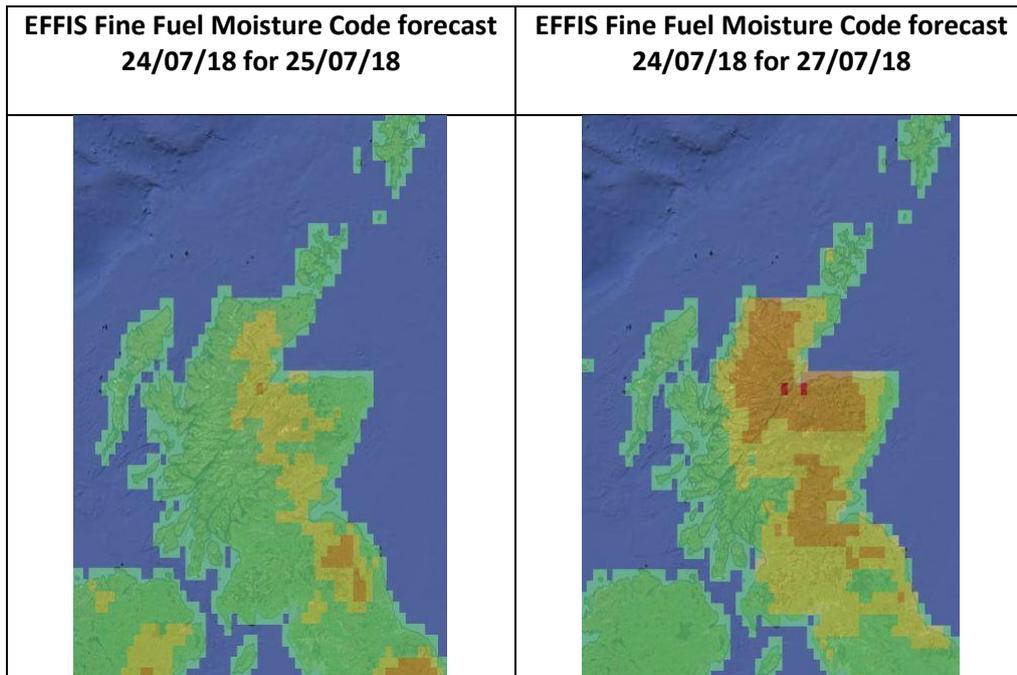


**Wildfire Danger Assessment for Tuesday 24<sup>th</sup> July to Friday 27<sup>th</sup> July 2018 for Scotland.**

Wildfire danger assessments are made on a broad area basis. For more local risk assessments both the seasonal condition of fuels and local weather conditions should be taken into account.

**The fire danger assessment is VERY HIGH.**

**Ignition potential – Fine Fuel Moisture Code**



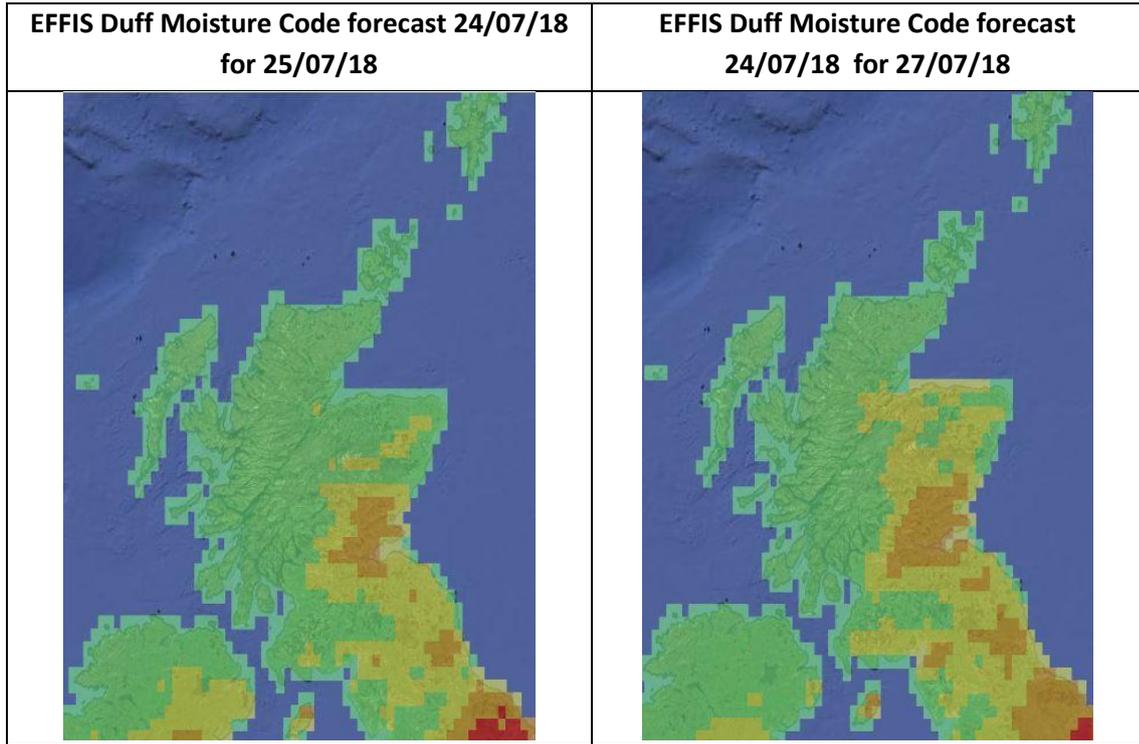
**The EFFIS FFMC forecast for the period 25/07/18 - 27/07/18 indicates a rising ignition potential over the whole of Scotland, except in the west, through to the weekend.**

Images courtesy of European Forest Fire Information Service (EFFIS)

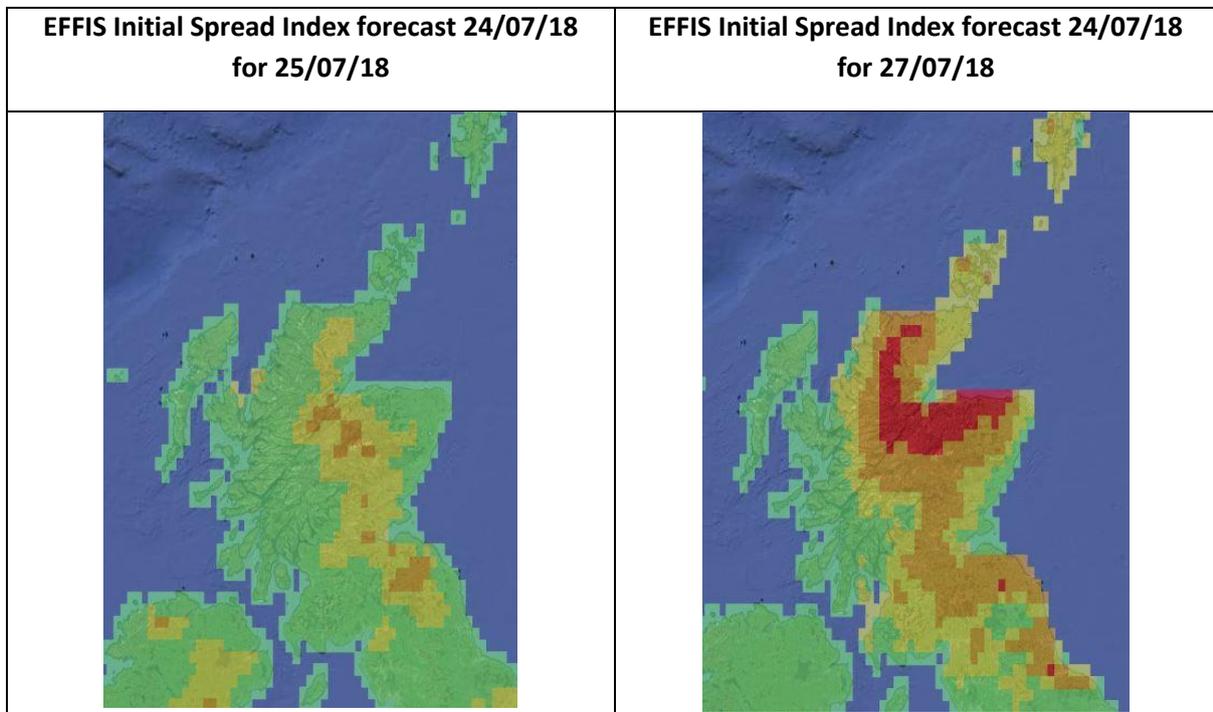
**EFFIS FFMC Fire Danger class bands:**

The scientific evidence indicates that significant numbers of wildfires often occur in the UK in the when FFMC is above 80. Any yellow area on the map indicates an FFMC of more than 83 and the brown areas are over 86 and red is over 89.

The condition of the fuels (vegetation) is not uniform over the country. Vegetation is still growing in the West. Grasses cured significantly in the recent hot, dry weather, especially in central and eastern Scotland and the moss and litter layer is also dry.



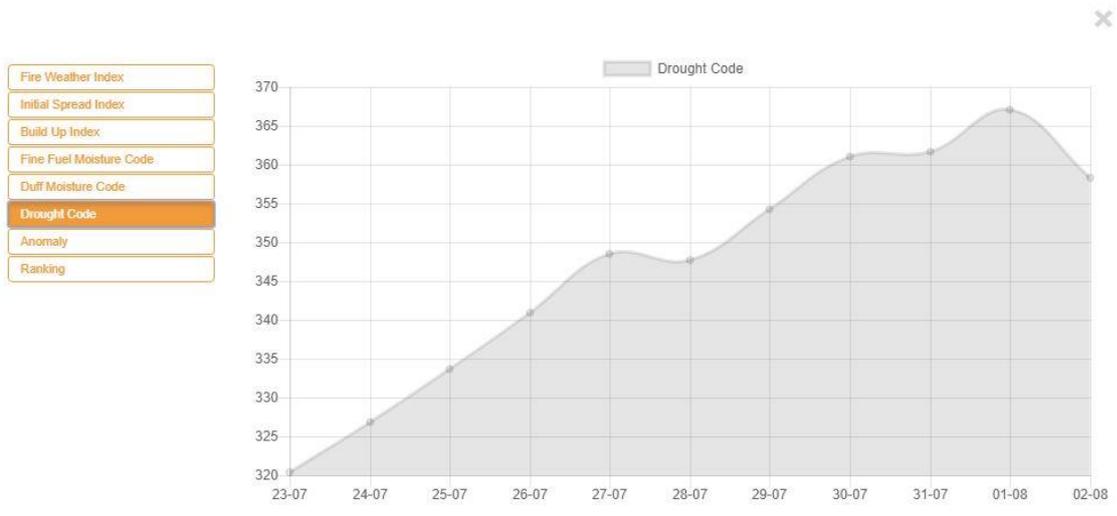
The Duff Moisture Code gives us an indication of the dryness of the deeper organic soil layers (1.2cm - 7cm). We have had a long period with little rain for eastern and southern Scotland. This fuel layer is still dry in the east, central and southern areas out and could raise fire behaviour, and the probability of re-ignition and smouldering.



The Initial Spread Index (ISI) is based on FFMC, plus an additional factor for wind. **This ISI forecast for the period 25/07/18 to 27/07/18 indicates the potential for fires to spread in nearly all parts of Scotland, for the next few days, especially in the north.**

**The Drought Code (DC), which reflects deeper soil moisture, rises to over 350 in central and eastern Scotland in this period, indicating significant smouldering potential.**

**Drought Code Forecast 24<sup>th</sup> July, Aviemore, Inverness-shire**



**General weather forecast information:**

There are a series of weather fronts crossing Scotland from the west, eventually bringing rain and cooler temperatures but daily highs could still reach 20+ centigrade. Winds across Scotland are light – moderate southerly but have variable directions around the country and in individual locations. Relative humidity will drop as low as 46% in the Inverness area. There is uncertainty when rain will cover the country.

**Discussion:**

**The key issue is the dryness of dead fuels, grasses, the moss and litter layer and deeper peat. Most areas have had some rain but grasses are now cured (dead) in many areas, which can dry out rapidly, increasing the available fuel load.** Should an ignition occur, the variable winds could create rapid shifts in head fire direction, with backing or flanking fires rapidly changing to become headfires. Significant rain is forecast over most of Scotland, which will reduce fire danger when and where it happens.

There are large areas of semi-natural vegetation, forest and grassland with last year’s dead vegetation and cured vegetation from this year. There is an **increasing** ignition potential in these areas. Should a wildfire ignition occur it is likely **very high** fire behaviour will occur, because of the increasing dampness of the grass, moss, litter and peat fuel layers. With the deeper fuel layers still dry from the drought, there is potential for re-ignitions and smouldering groundfires / peat fires.

Land managers should be considering what fire prevention and preparedness activities to do for this weekend. The messages to the public are that they should exercise caution **throughout** Scotland over the weekend.

**Fire Danger for period:**

**The fire danger for eastern Scotland from 25<sup>th</sup> – 27th July is rising to very high for all parts of Scotland, except western Scotland, where it is low.**

M. Bruce  
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 Date 24/07/18

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Appendix A: Background information

The EFFIS system is based on the Canadian Fire Weather Index system, of which FFMC is a sub-index. FFMC looks at the dead fuel moisture of the litter layer on the soil surface. The Initial Spread Index (ISI) is FFMC plus a wind function

Table 1 EFFIS Fine Fuel Moisture Code (FFMC) & Initial Spread Index (ISI) fire danger class bands:

	EFFIS FFMC Fire Danger classes				
	Very Low	Low	Moderate	High	Very High
	Green	Yellow	Brown	Red	Black
<b>FFMC</b>	< 82.7	82.7 - 86.1	86.1 - 89.2	89.2 - 93	>= 93
<b>ISI</b>	< 3.2	3.2 - 5	5 - 7.5	7.5 - 13.4	>= 13.4
<b>DMC</b>	< 15.7	15.7 - 27.9	27.9 - 53.1	53.1 - 140.7	>= 140.7

EFFIS fire danger classes were originally created to support decision making in Mediterranean areas. The equivalent fire danger with typical grass and shrub fuel types in the British Isles is significantly lower. European Forest Fire Information Service (EFFIS) can be viewed at:

[http://effis.jrc.ec.europa.eu/static/effis\\_current\\_situation/index.html](http://effis.jrc.ec.europa.eu/static/effis_current_situation/index.html)

The weather data that is used in the EFFIS Fire Weather Index model is from the European Centre for Medium Range Forecasts (ECMWF).