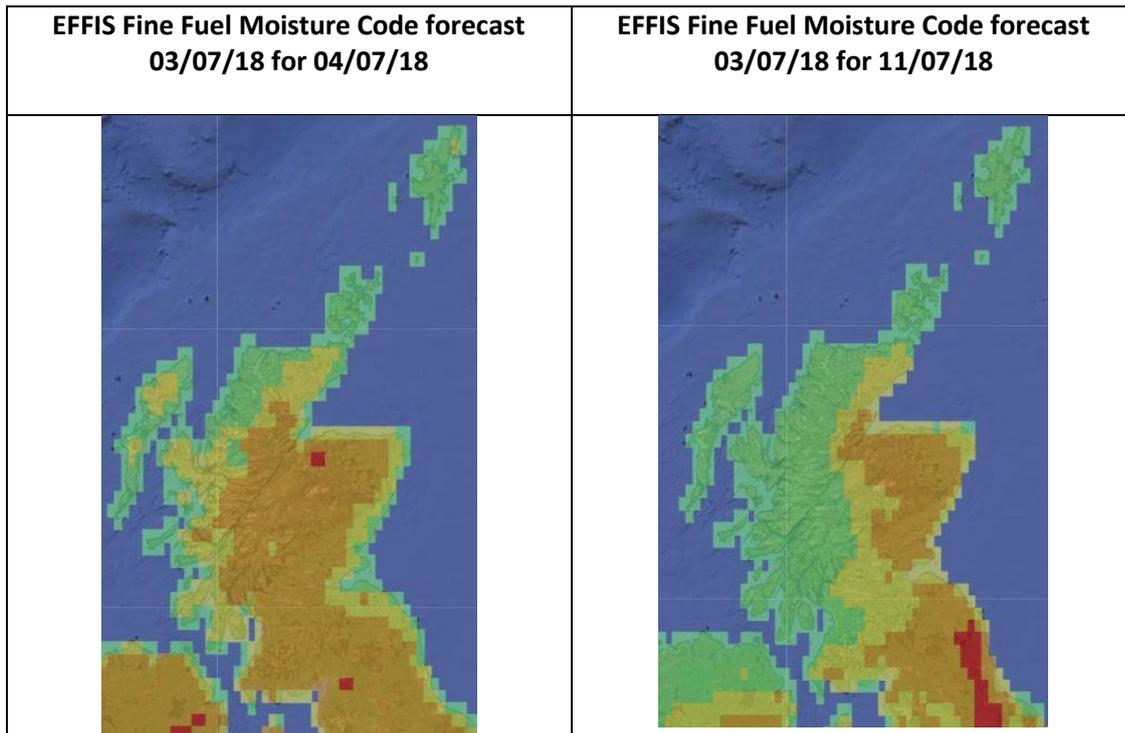


**Wildfire Danger Assessment for Wed 4<sup>th</sup> July to Wed 11<sup>th</sup> July 2018 for Scotland.**

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 overall fire danger assessment is EXTREME.**

**Ignition potential – Fine Fuel Moisture Code**



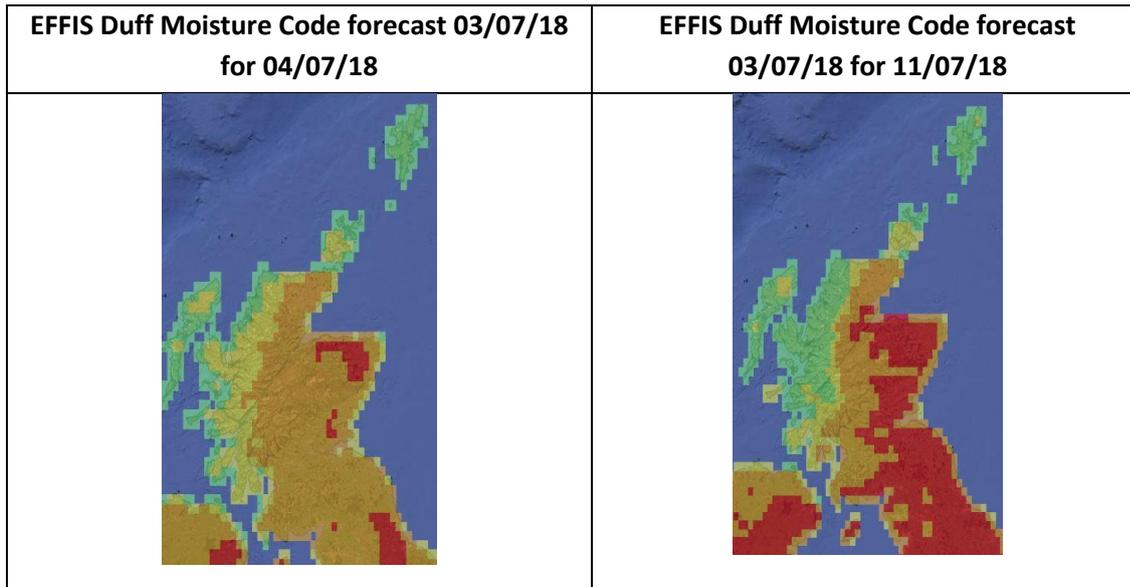
**The EFFIS FFMC forecast for the period 03/07/18 - 11/07/18 indicates a high ignition potential over the whole of Scotland, except the NW from Wed 4<sup>th</sup> July until Sunday 8<sup>th</sup> July 2018, when it reduces over most of the west but continues in the rest of Scotland**

Images courtesy of European Forest Fire Information Service (EFFIS)

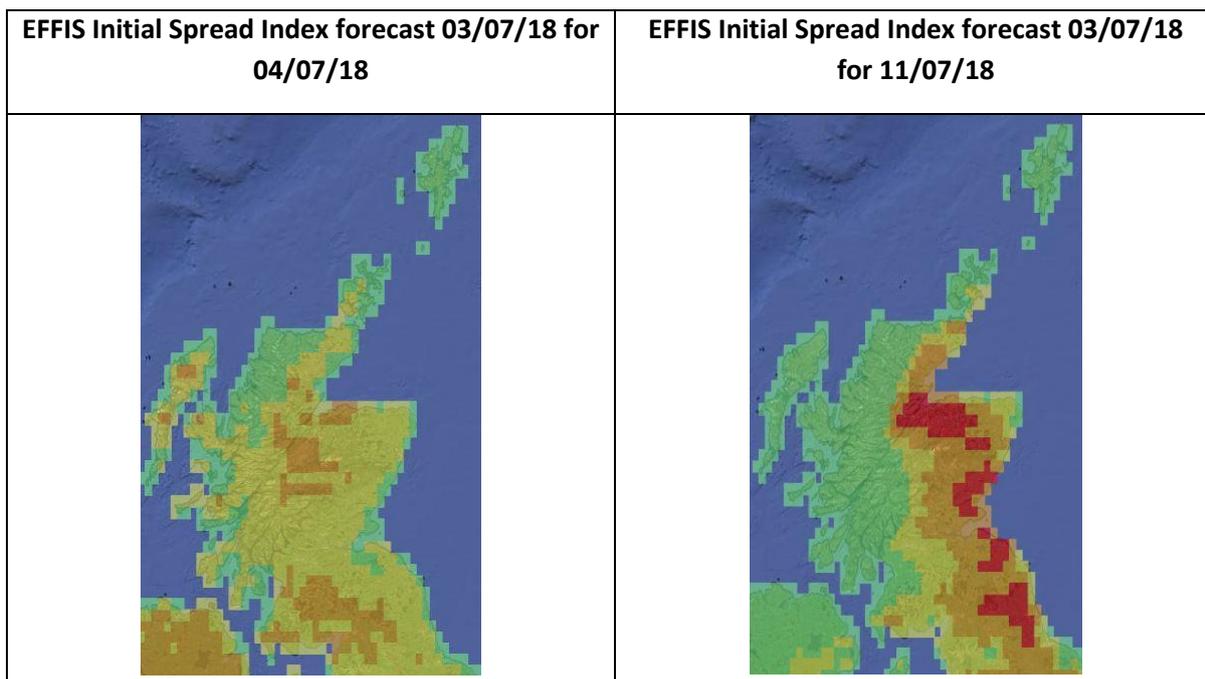
**EFFIS FFMC Fire Danger class bands:**

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. However, grasses are curing rapidly in the recent hot, dry weather, especially central and eastern Scotland and the moss and litter layer, the top 1.2cm of the soil, that FFMC focusses on, is very 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 little rain in the most of Scotland. This fuel layer is drying out and will support fire behaviour, creating a risk 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 04/07/18 to 11/07/18 indicates the potential for fires to spread everywhere in Scotland through to Tuesday next week.**

The Drought Code (DC), which reflects deeper soil moisture rises over 400 in central and eastern Scotland in this period indicating significant smouldering potential.

**General weather forecast information:**

There is a continuing anti-cyclonic high pressure weather system over the UK, creating a further period of hot and dry weather for most of Scotland, with a few showers in NW Highlands over the weekend. Winds across Scotland are light – moderate but have variable directions around the country and in individual locations.

**Discussion:**

**The key issue now is the dryness of dead fuels, the moss and litter layer and deeper peat. The rising FFMC, DMC and DC values indicate that all these fuel layers will support fires. Grasses are also now curing (dying) in many areas. Moorland, forest and peat areas have dried out considerably. The variable winds could create rapid shifts in head fire direction, with backing or flanking fires rapidly changing to become headfires.** Significant rain is not forecast over most of Scotland, there may be some showers in NW/W Highlands, which will reduce fire danger a little 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. There is **extreme** ignition potential in these areas. Should a wildfire ignition occur it is likely **extreme** fire behaviour will occur, because of the dryness of the moss and litter layers. Deeper fuel layers are now drying out significantly with extending drought in the east, increasing the potential for re-ignitions and smouldering fire to occur.

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

**Fire Danger for period:**

**The fire danger for most of Scotland from 4<sup>th</sup> – 11<sup>th</sup> July is extreme. The exception is Western Scotland where it is high.**

M. Bruce  
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Date 26/06/18

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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:

	<b>EFFIS FFMC Fire Danger classes</b>				
	<b>Very Low</b>	<b>Low</b>	<b>Moderate</b>	<b>High</b>	<b>Very High</b>
	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).