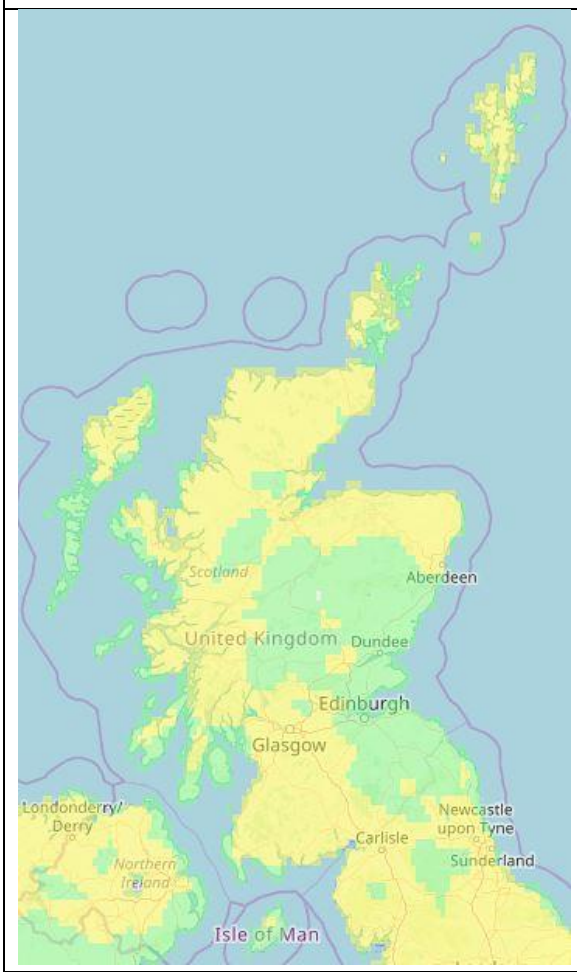
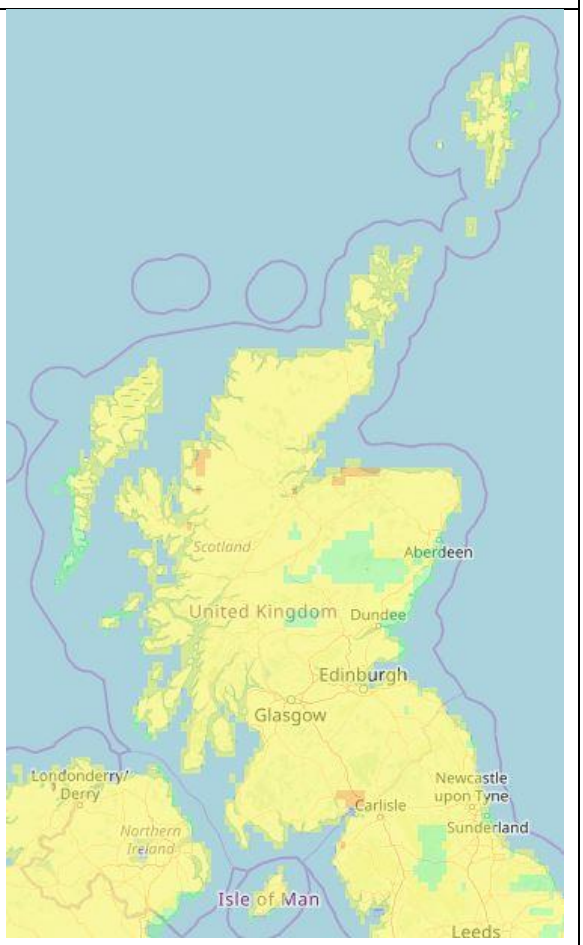
Wildfire Danger Assessment for Saturday 13th – Monday 15th April 2019 for Scotland.

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

The overall fire danger assessment is VERY HIGH for North and SW Scotland 9th – 11th April, rising to EXTREME for most Scotland for 12th April.

Ignition Potential - Fine Fuel Moisture Code:

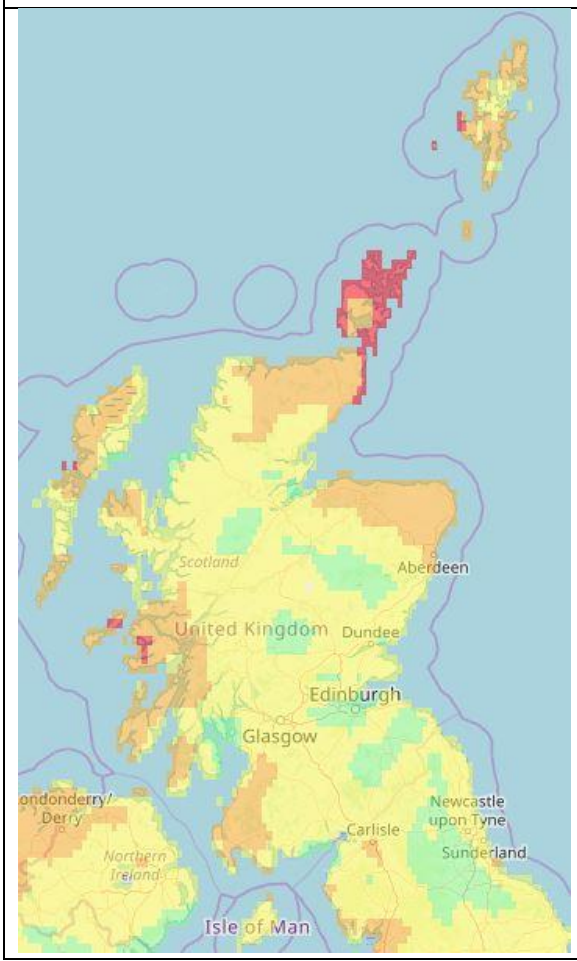
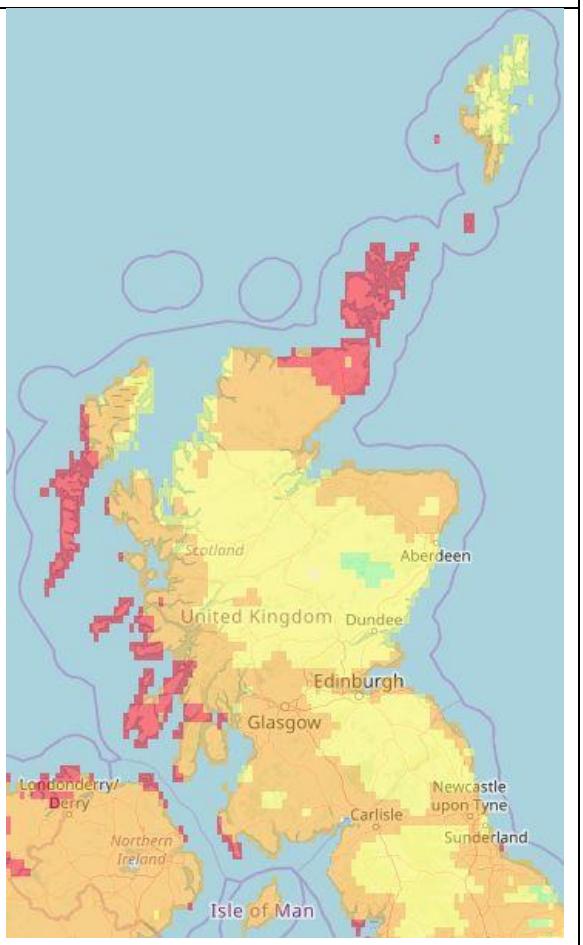
EFFIS Fine Fuel Moisture Code forecast 11/04/19 for 13/04/19	EFFIS Fine Fuel Moisture Code forecast 11/04/19 for 15/04/19
	

The EFFIS FFMC forecast for the period 13/04/19 to 15/04/19 indicates a VERY HIGH ignition potential for areas marked yellow.

Images courtesy of European Forest Fire Information Service (EFFIS)

EFFIS FFMC & ISI 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 and ISI above 2. Any yellow area on the map indicates an FFMC of more than 83. ISI which is FFMC plus a function for wind, shown below in yellow below indicates values between 3.2 - 5.

EFFIS Initial Spread Index forecast 11/04/19 for 13/04/19	**EFFIS Initial Spread Index forecast 11/04/19 for 15/04/19**
	

<u>The Initial Spread Index for most of Scotland is above 3 where there will be a VERY HIGH spread potential 13-15th April, becoming EXTREME in areas coloured brown or red.</u>

Seasonal condition of the fuels:

At this time of year, the late winter, the seasonal condition of the fuels (vegetation) will be reacting most to the combination of frost at night and warm dry weather during the day and can reach very low moisture contents. There is a lot of dead grass and dead heather left over from last year.

The heavy rain and snow over the last month wetted the deeper fuel layers.

General weather forecast information:

The high pressure centred over Norway continues. These conditions are likely to continue through into next week, and maybe for longer. Very little rain is forecast for Scotland. Temperatures and windspeed are variable south-easterly moderate in the east, and higher in north and west Scotland and the Northern Isles.

Discussion:

The key issue now is the low seasonal moisture in live fuels, and the drying out of the moss and litter layer, plus moderate to high wind speeds. Snow is melting in the hills, there are some frosts forecast in rural areas, with bright sunny days and some warmth. In these conditions the moss and litter and the heather layers can dry out quickly. This will happen fastest at lower altitudes and on south facing slopes but is affecting nearly all areas by the end of the weekend. The lower temperatures and windspeed will keep fire danger slightly lower in the east than in the west.

Both FFMC and ISI are rising through the weekend in all areas. Where the FFMC is high all surface fuel layers will ignite readily and burn quite hot, where ISI is above 3 spread rates could be fast. There will also be increasing potential for re-ignitions from the upper moss and litter.

The Muirburn season for most areas ends on Monday, April 15. Only areas above 450m can use Muirburn and then only with the landowner's permission. Fires could burn hot with big flames, fast rates of spread, high fire intensity and therefore be very difficult to extinguish. There have been some wildfires in the last week. There are only a few areas of Scotland with FFMC below 80 & ISI below 2. A very cautious approach is advised.

Fire Danger for period:

The fire danger for is VERY HIGH on 13th, becoming EXTREME by 15th April 2019 for nearly all areas of Scotland.

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Appendix A: Background information

The EFFIS system is based on the Canadian Fire Weather Index system, of which FFMC, DMC, DC & ISI are a sub-indices. 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. DMC & DC look are deeper soil moisture indices.

Table 1 EFFIS fire danger class bands:

	VERY LOW	**LOW**	**MOD**	**HIGH**	**VERY HIGH**
	Green	Yellow	Brown	Red	Black
FFMC	< 82.7	82.7 - 86.1	86.1 - 89.2	89.2 - 93	>= 93
DMC	< 15.7	15.7 - 27.9	27.9 - 53.1	53.1 - 140.7	>= 140.7
DC	< 256.1	256.1 - 334.1	334.1 - 450.6	450.6 - 749.4	>= 749.4
ISI	< 3.2	3.2 - 5	5 - 7.5	7.5 - 13.4	>= 13.4

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

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