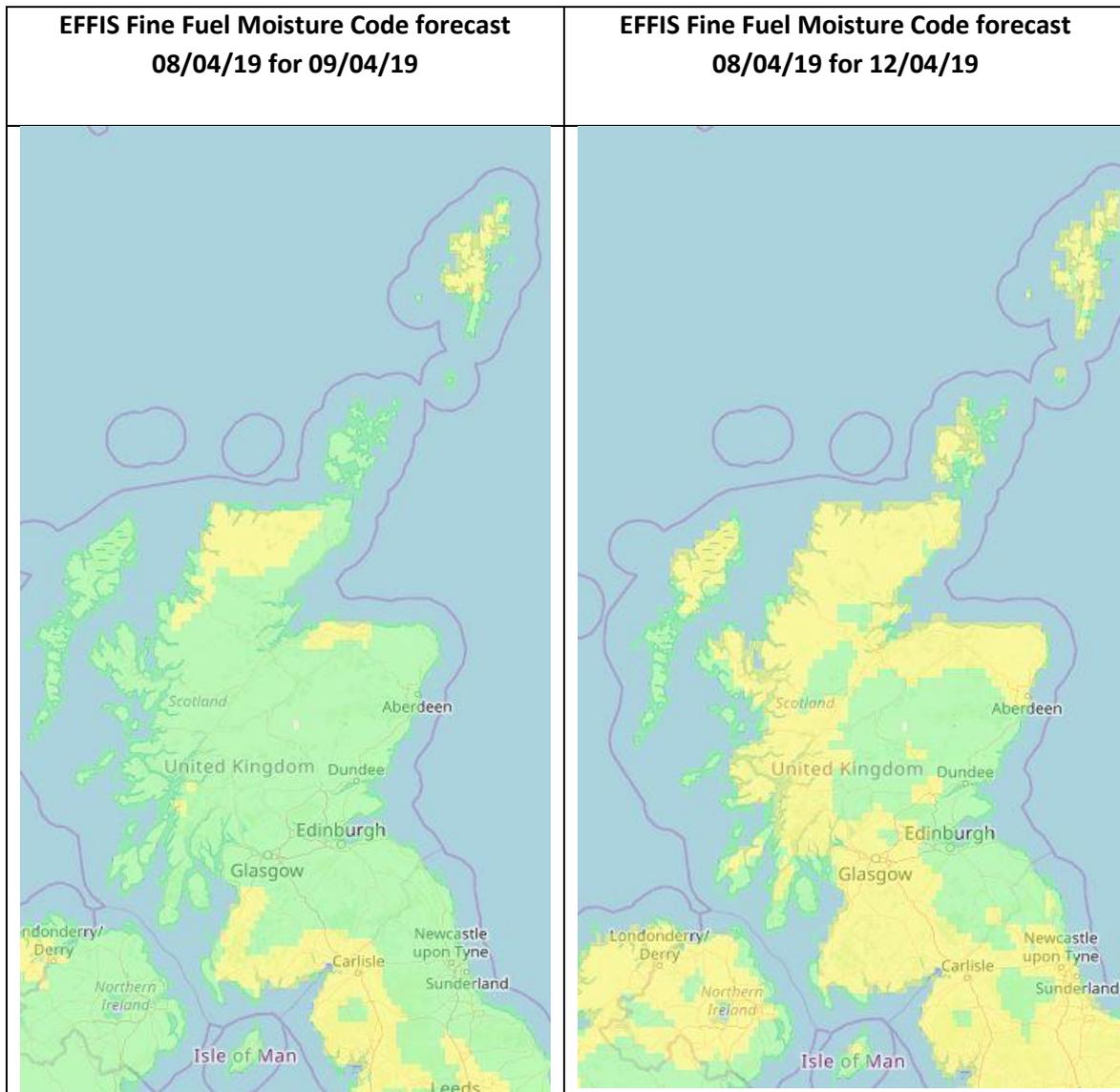


Wildfire Danger Assessment for Monday 8th– Friday 12th April 2019 for Scotland.

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 seasonal 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:

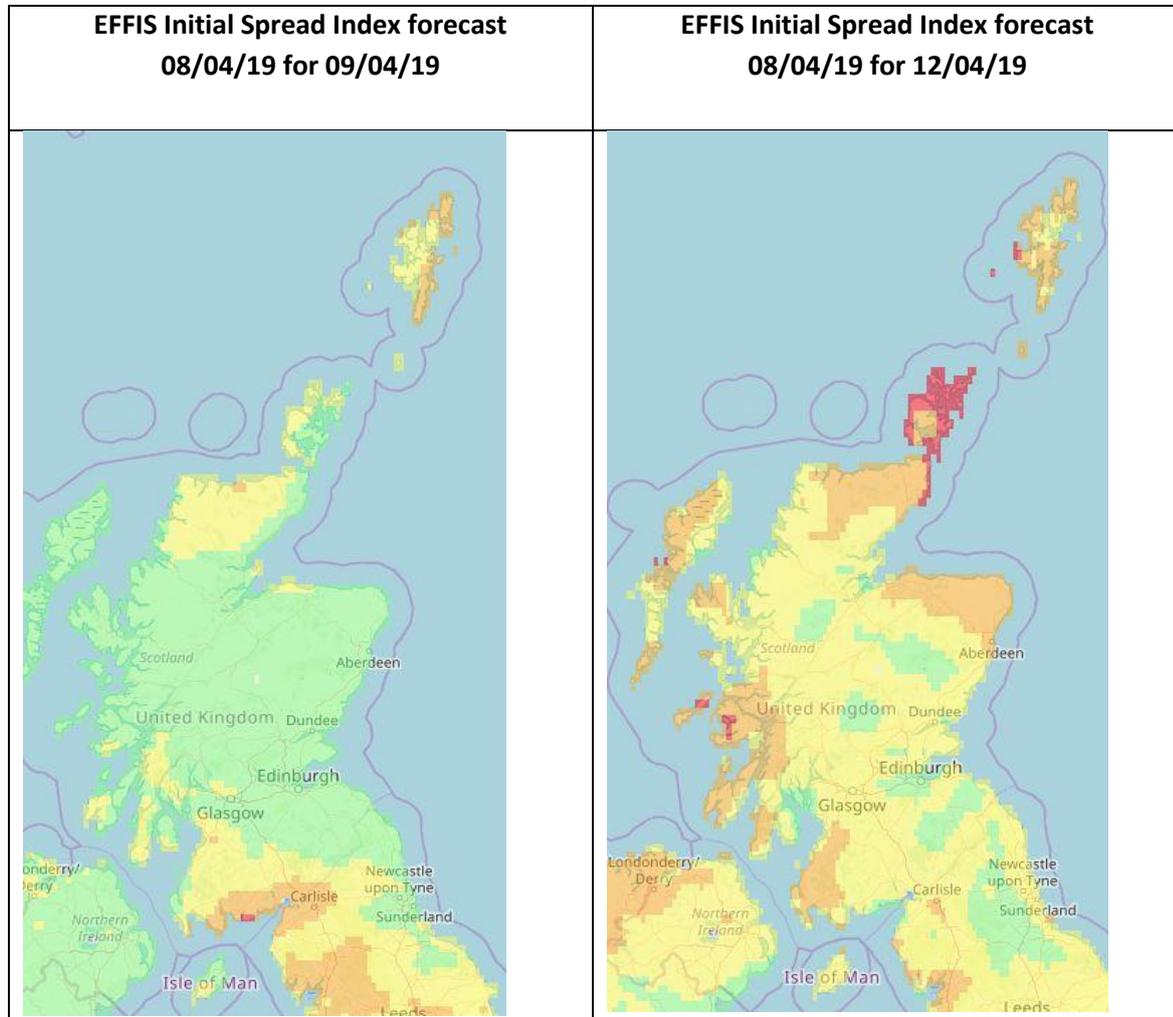


The EFFIS FFMC forecast for the period 09/04/19 to 12/04/19 indicates a VERY HIGH ignition potential for areas marked yellow.

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 and for ISI, shown below, yellow indicates values between 3.2 - 5.



The Initial Spread Index for the north, northern Isles and SW Scotland is above 3 where there will be a VERY HIGH spread potential 9-10th April, this drops on the 11th but rises significantly on the 12th April in areas coloured brown or red, becoming EXTREME.

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 and warm dry weather 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 has wetted the deeper fuel layers.

General weather forecast information:

Snow and rain last weekend will be followed by an increasing warm settled period, with high pressure centred over Norway. These conditions are likely to continue through until Friday, and maybe for longer. Very little rain is forecast for Scotland. Temperatures and windspeed are easterly low to moderate in the east, and higher in western 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 through the week. Snow is melting in the hills, there are some frosts forecast in rural areas, with bright sunny days and some warmth 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 likely to affect all areas by the end of the week. 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 week, with a lull on the 11th for central and eastern Scotland. There is a gradient with higher index values in the west, which become lower further east. 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 layer towards the end of the week.

People conducting Muirburn should be cautious. Fires could burn hot with big flames, fast rates of spread, high fire intensity and therefore be difficult to extinguish.

Fire Danger for period:

The fire danger for central and eastern Scotland is moderate, and north and SW Scotland is VERY HIGH 9th- 11th April; nearly all areas of Scotland rise to EXTREME on 12th April 2019.

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Date 08/04/19

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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).