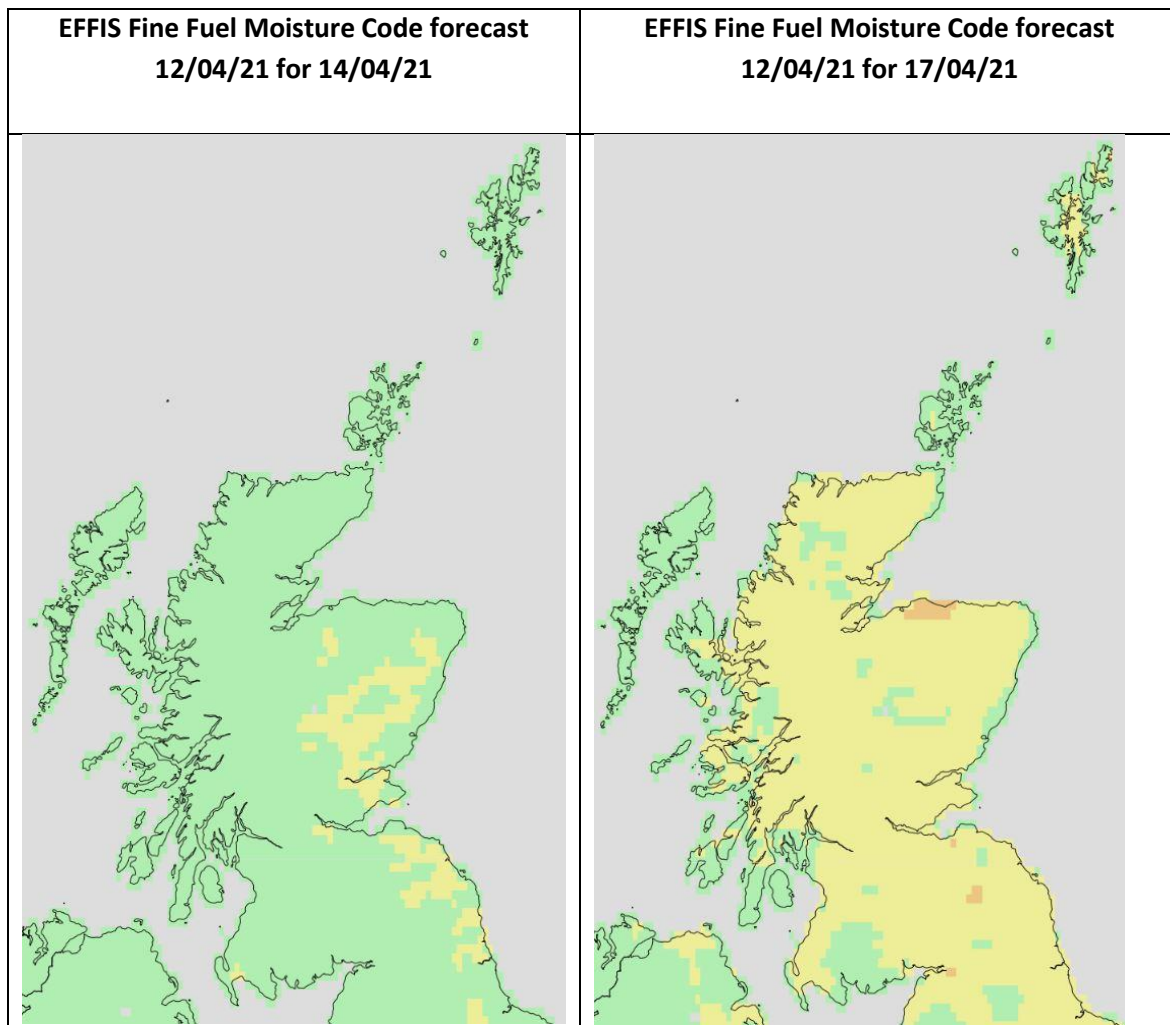


**Wildfire Danger Assessment for Tuesday 13<sup>th</sup> – Saturday 17<sup>th</sup> April 2021 for Scotland.**

**The overall fire danger assessment is:**

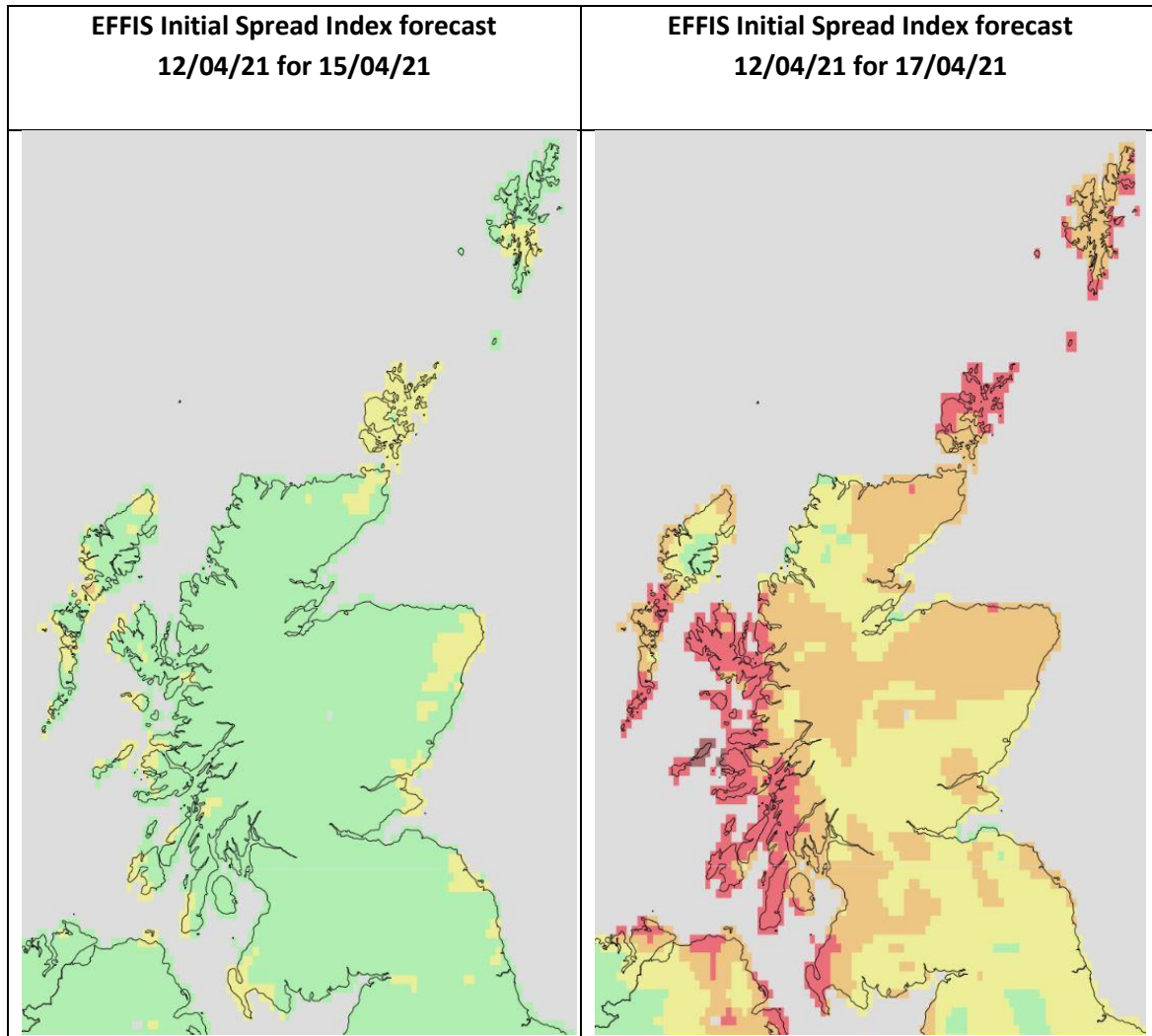
- North-east, east and central Scotland Very High – Extreme 13<sup>th</sup> – 17<sup>th</sup> April 2021
- Western Scotland Extreme 15<sup>th</sup> – 17<sup>th</sup> April Extreme 15 – 17<sup>th</sup> April 2021

**Ignition Potential - Fine Fuel Moisture Code:**



**FFMC key for Scotland:**  
**Green – Low / Moderate / High**  
**Yellow – Very High**  
**Brown/Red/Black - Extreme**

**Spot checks indicate FFMC higher than 80 across northern, eastern and central Scotland from 13<sup>th</sup> April and all areas except south west Scotland from 15<sup>th</sup> April.**



**ISI key for Scotland:**

**Green – Low / Moderate / High**

**Yellow – Very High**

**Brown/Red/Black - Extreme**

**Spot checks indicate ISI higher than 2 central and eastern Scotland from 14<sup>th</sup> April and all areas from 15<sup>th</sup> April.**

**Seasonal condition of the fuels:**

Mid-April - at this time of year, early spring, the seasonal condition of the fuels (vegetation) will be reacting most to the combination of frost, low relative humidity, longer day-lengths, rising temperatures, sunshine and wind. There is a lot of dead grass and dead heather left over from last year, which can dry very quickly. Frost and sun can also reduce the live fuel moisture of heather. Overall these conditions can create very low moisture contents. Day length and sunlight are rapidly getting stronger.

### **General weather forecast information:**

The cold dry weather from a settled high pressure system over the UK is continuing with a cold front held in the Atlantic to the west of Scotland. Wind direction initially will be variable, then coming from the south-east Thursday – Saturday, before swinging south-westerly on Sunday. Windspeed initially will be light to moderate 6 – 16 kph (4 – 10mph). Then windspeed in western areas will rise to moderate to strong winds from Thursday, with eastern areas also becoming moderate to strong from Friday 24 – 33 kph (15-21 mph), to Saturday. Air temperatures are in a day / night range of +13°C to -3°C. Humidity levels in the east are low in the middle of the day and drop to around 49% - 60% across all but the south west, even there humidity drops later in the week to 48%. These are spring drying conditions.

### **Discussion:**

The key issues over the next few days in all areas, except the south west, are: the previous period of dry weather, sunshine, low humidity and the rising windspeeds. Dead fine fuels will dry quickly in these conditions.

FFMC is above 80 i.e. very high for central and eastern Scotland 14-17<sup>th</sup> April. ISI becomes high i.e. over 2 in central and eastern areas 14 – 17<sup>th</sup> April and across most of Scotland 15 – 17<sup>th</sup>. The exception is the south west where ISI is elevated 16- 17<sup>th</sup> April, slightly later, with the rain earlier in the week.

Where the FFMC is high dead fuels will ignite and burn hot enough to burn fuels such as grass, heather, bracken and gorse. In central and eastern areas ISI is above 5 on Saturday 17<sup>th</sup> and rises to over 7 in some parts of the west, so spread rates could be fast. The litter and moss layers are starting to dry out but the lower soil layers are still damp, there is potential for re-ignitions and some smouldering.

Overall in the for the period 14-17<sup>th</sup> fires could burn and spread easily, with moderate to high fire intensity, rising to very high fire intensity when windspeeds rise above 10 kph (6 mph). Fires will be difficult to extinguish with handtools, and it is likely that water will be required.

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Date 13/04/21

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### **Important Notice**

**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 the local condition of fuels, recent weather, and weather forecasts, should be taken into account.**

This document has been prepared by Firebreak Services Limited ("Firebreak") for general information purposes only and is not intended to provide advice to any particular person or organisation or for any specific site or location and it should not be relied on as such. The contents of this document are not a substitute for taking appropriate professional advice. Any person who relies on the contents of this document does so entirely at their own risk and Firebreak accepts no liability for any loss, damage or expense that may arise as a consequence.

## 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:

	<b>VERY LOW</b>	<b>LOW</b>	<b>MOD</b>	<b>HIGH</b>	<b>VERY HIGH</b>
	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](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).

In Scotland and the UK the scientific evidence indicates that significant numbers of wildfires often occur 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, when shown in yellow indicates values between 3.2 – 5 i.e. above the threshold value of 2.

The Scottish Government have commissioned research to support a Scottish Fire Danger Rating System, for information see <https://www.hutton.ac.uk/research/projects/scottish-fire-danger-rating-system-sfdrs>