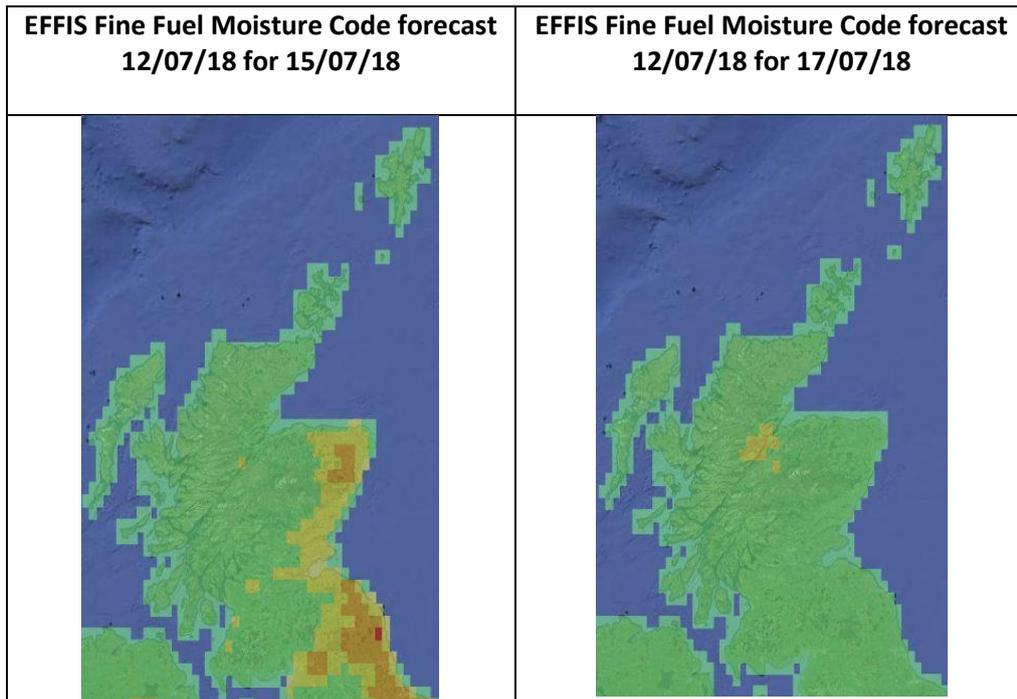


Wildfire Danger Assessment for Friday 13th July to Tuesday 17th July 2018 for Scotland.

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 MODERATE.

Ignition potential – Fine Fuel Moisture Code



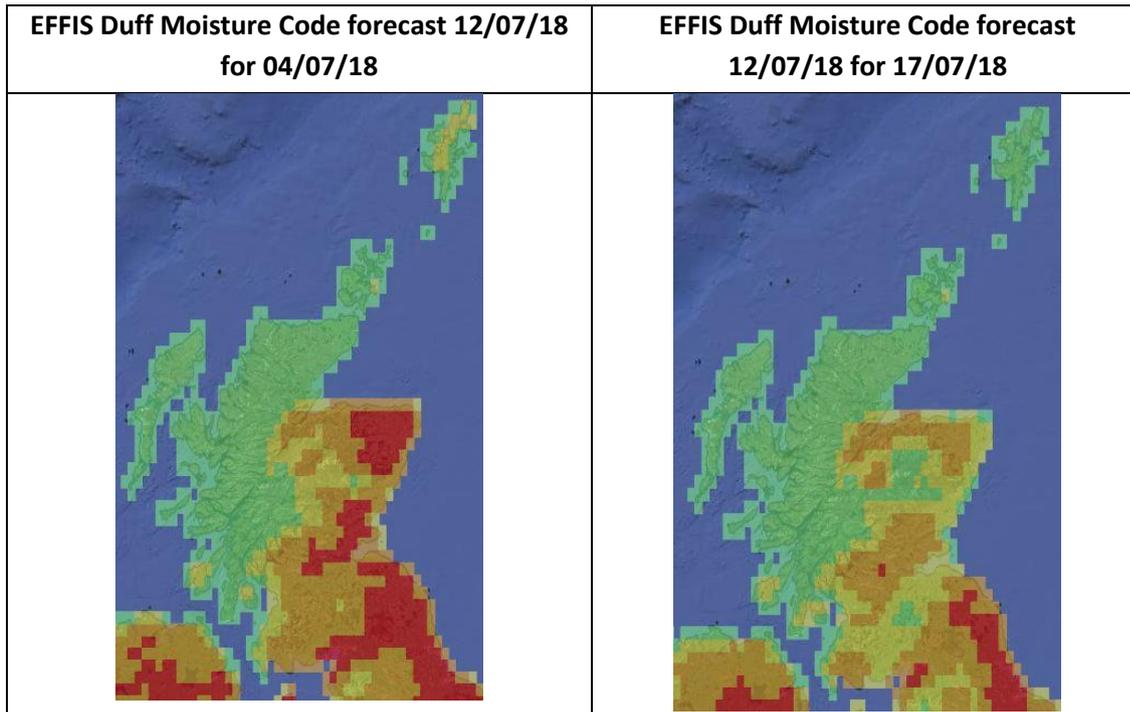
The EFFIS FFMC forecast for the period 12/07/18 - 17/07/18 indicates a reducing ignition potential over the whole of Scotland, ignition potential in the east is high through to the weekend, then reduces to low

Images courtesy of European Forest Fire Information Service (EFFIS)

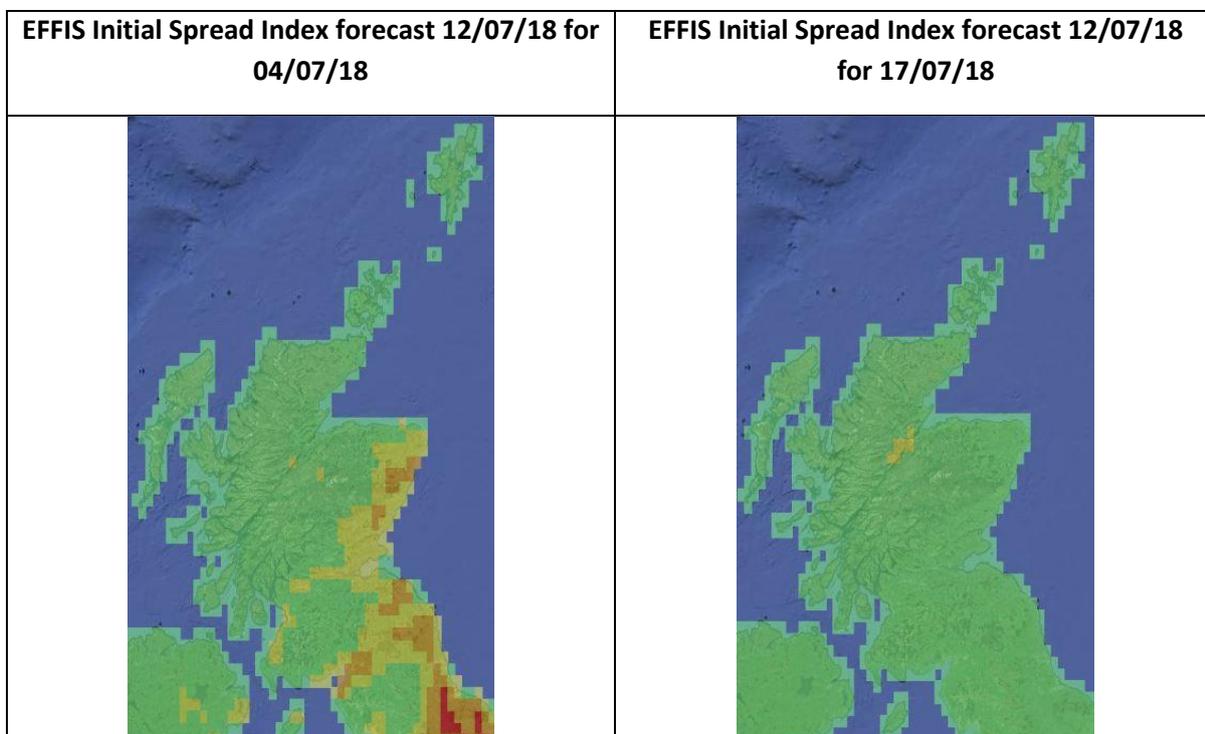
EFFIS FFMC Fire Danger class bands:

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 cured significantly in the recent hot, dry weather, especially central and eastern Scotland and the moss and litter layer.



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 still dry in the east, central and southern areas out and could still support 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 12/07/18 to 17/07/18 indicates the potential for fires to spread in eastern and southern Scotland over the weekend.**

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

General weather forecast information:

There are a series of weather fronts crossing Scotland from the west, bringing rain and cooler temperatures. Winds across Scotland are light – moderate but have variable directions around the country and in individual locations.

Discussion:

The key issue is the dryness of dead fuels, grasses, the moss and litter layer and deeper peat. With the rain it is likely that there will be a moisture inversion, with surface fuels wetting faster than deeper fuels. However grasses are now cured (dead) in many areas, which can dry out rapidly, increasing the available fuel load. Should an ignition occur, which is much less likely, 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 increasingly 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 a **reducing** ignition potential in these areas. Should a wildfire ignition occur it is likely **moderate** 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 in the east, there is some potential for re-ignitions and smouldering groundfires / peat fires to occur.

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 12th – 15th July is high but reducing and for central and western Scotland it is low, creating a moderate fire danger over Scotland as a whole.

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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 |
| FFMC | < 82.7 | 82.7 - 86.1 | 86.1 - 89.2 | 89.2 - 93 | >= 93 |
| ISI | < 3.2 | 3.2 - 5 | 5 - 7.5 | 7.5 - 13.4 | >= 13.4 |
| DMC | < 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

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