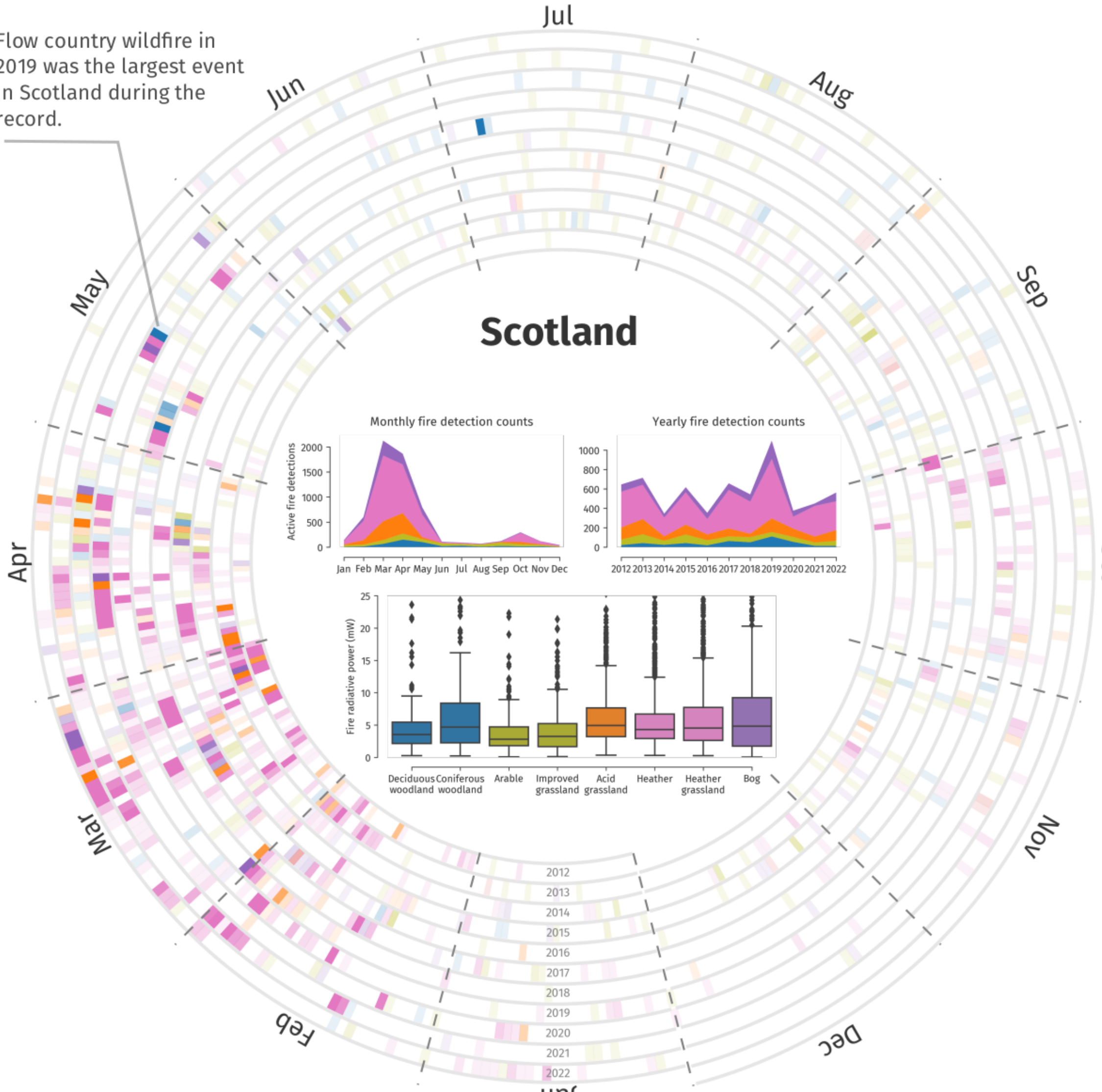
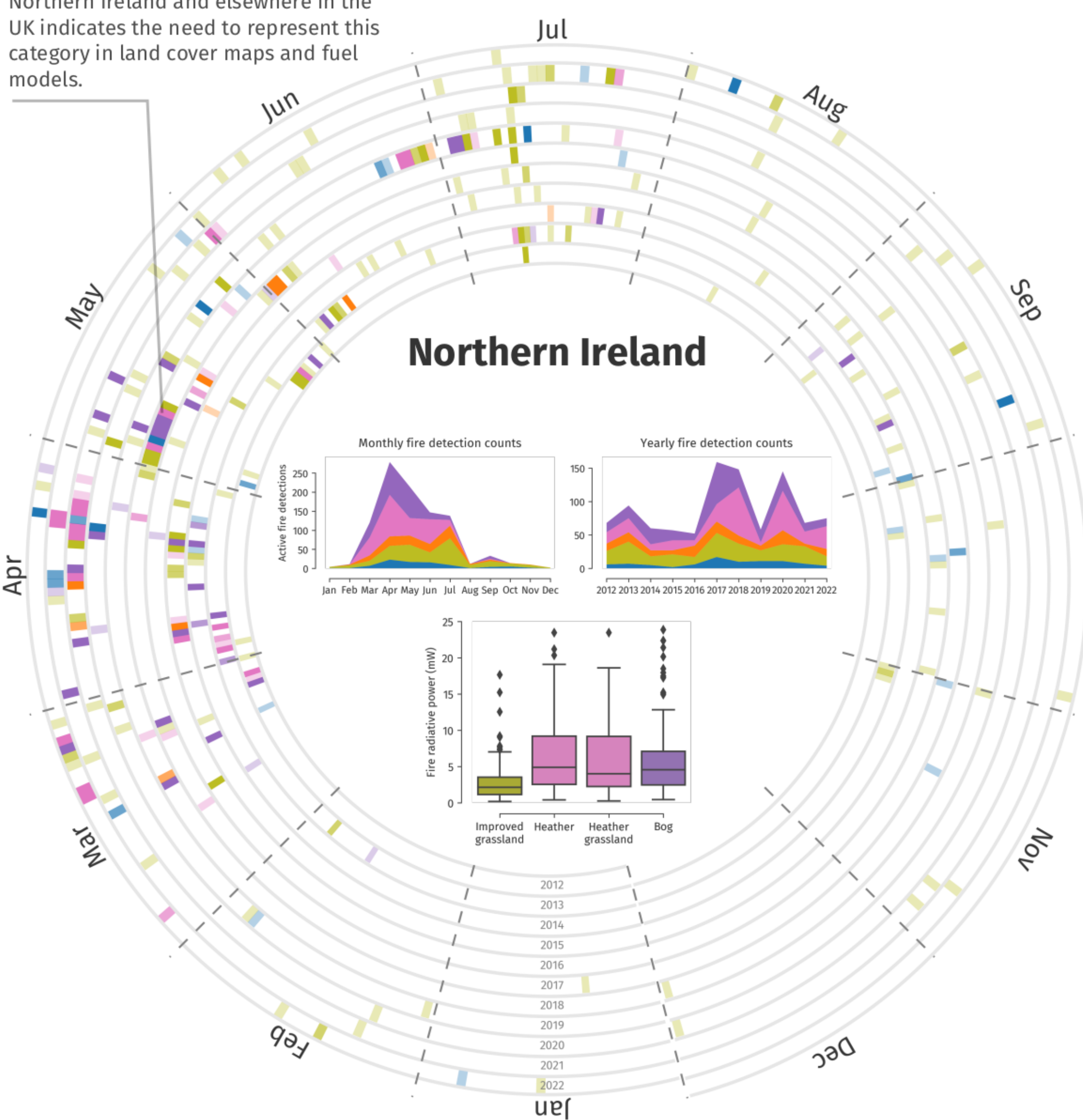


# Seasonal cycle and dominant land cover of active fire detections in the UK climate

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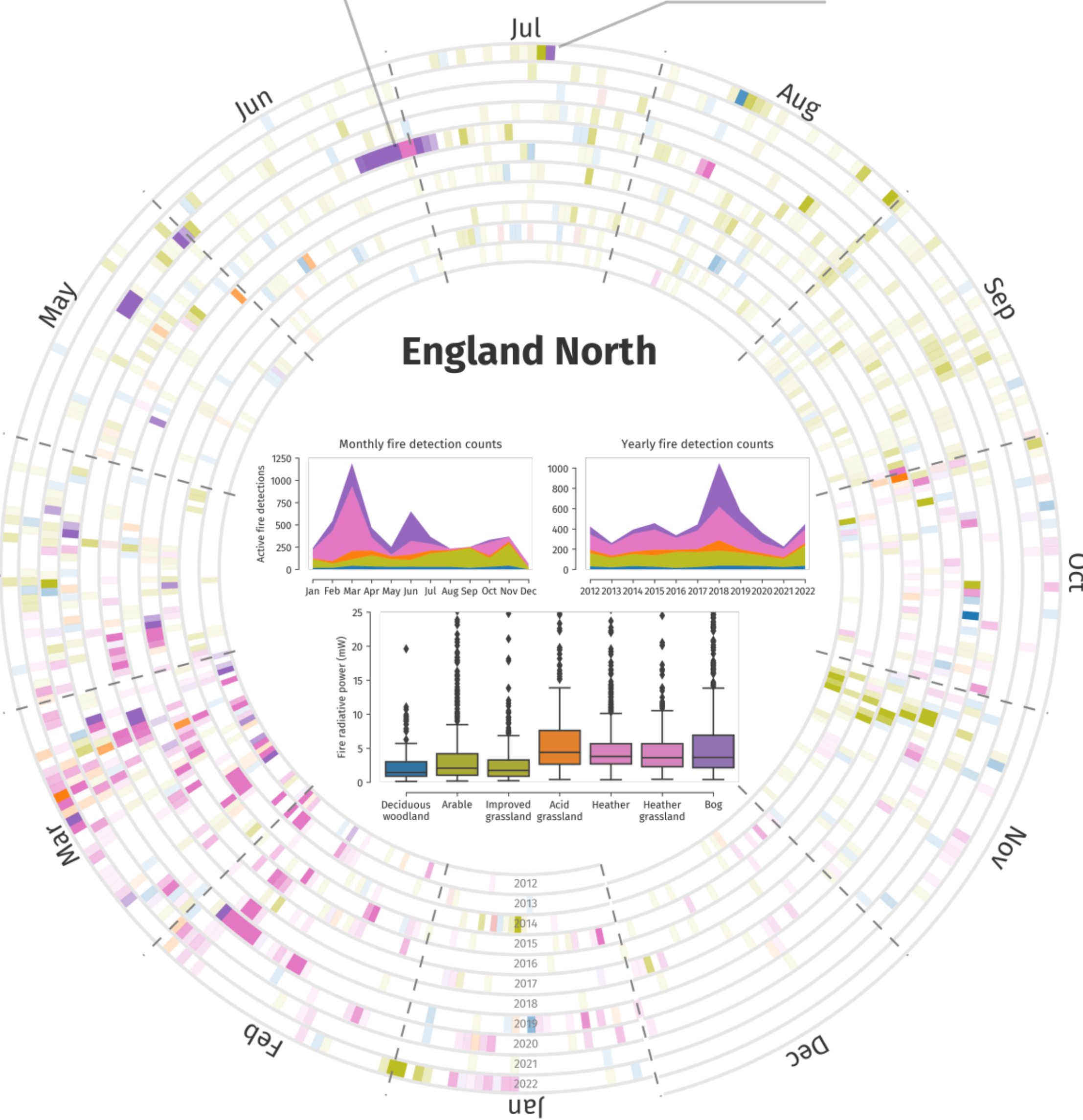
Many deliberate gorse fires were started during a spell of hot, dry weather in May 2017. The importance of gorse fires in Northern Ireland and elsewhere in the UK indicates the need to represent this category in land cover maps and fuel models.



**Timing and dominant fire-prone land cover type** varies greatly between UK climate regions. Heathland fires are dominant in Scotland and North England. In contrast, the overwhelming majority of fires in South England occur on agricultural land, while in Wales burning is most frequently observed in natural grasslands.

Saddleworth Moor fire in 2018 was by far the largest event in the record. The conditions were exacerbated by prolonged drought and high temperatures. In total 18 km2 of moorland were burned and the Manchester fire service declared it one of the busiest periods it has ever faced.

Unseasonably high fire activity due to record-breaking heatwave. Multiple vegetation fires near and in urban areas resulting in property loss.



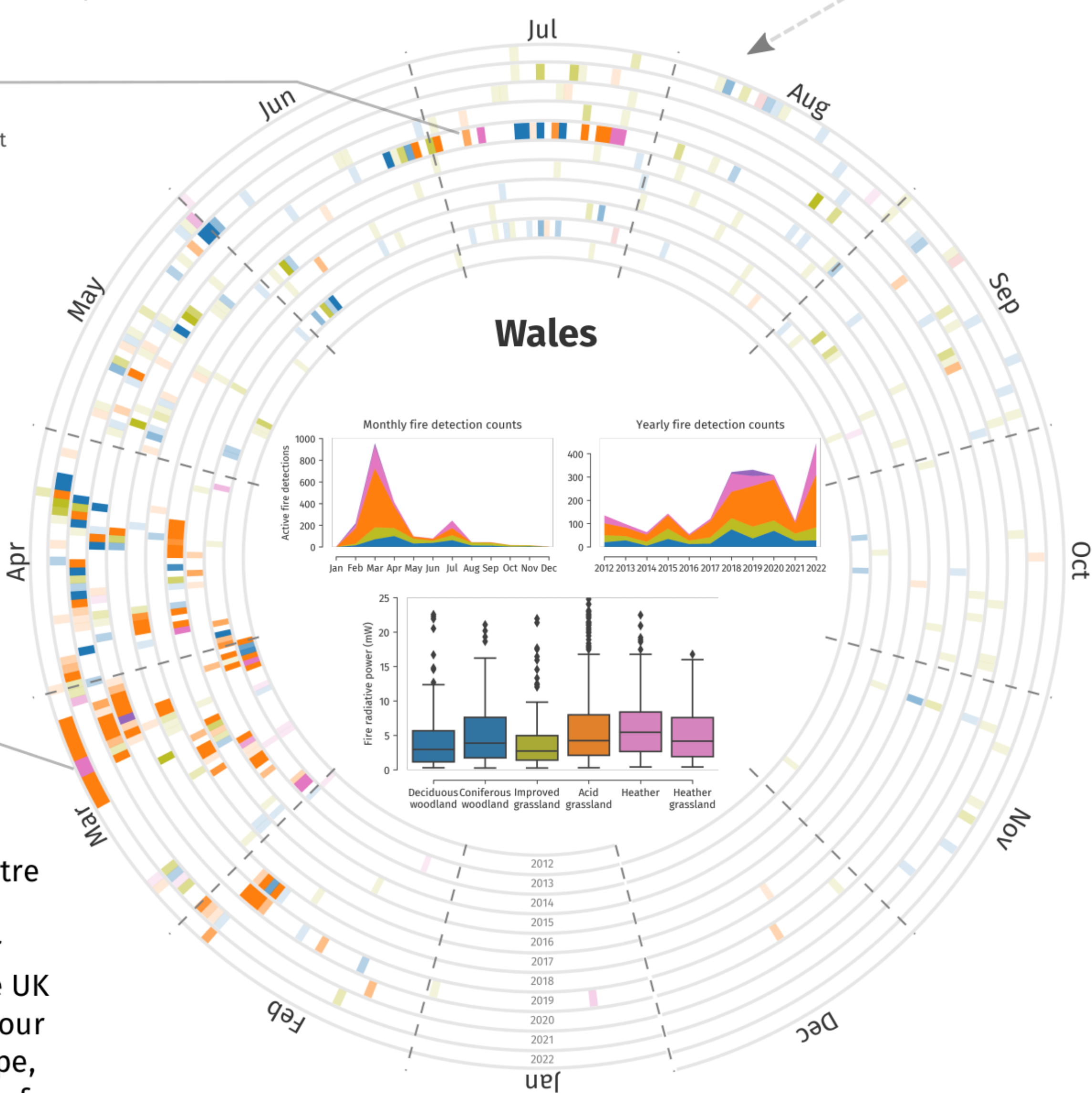
The MetOffice UK climate regions

The Center for Ecology and Hydrology land cover classes used in this study

- Deciduous and coniferous woodland
- Arable land and improved grassland
- Calcareous and acid grassland
- Heather and heather grassland
- Wetland (bog)

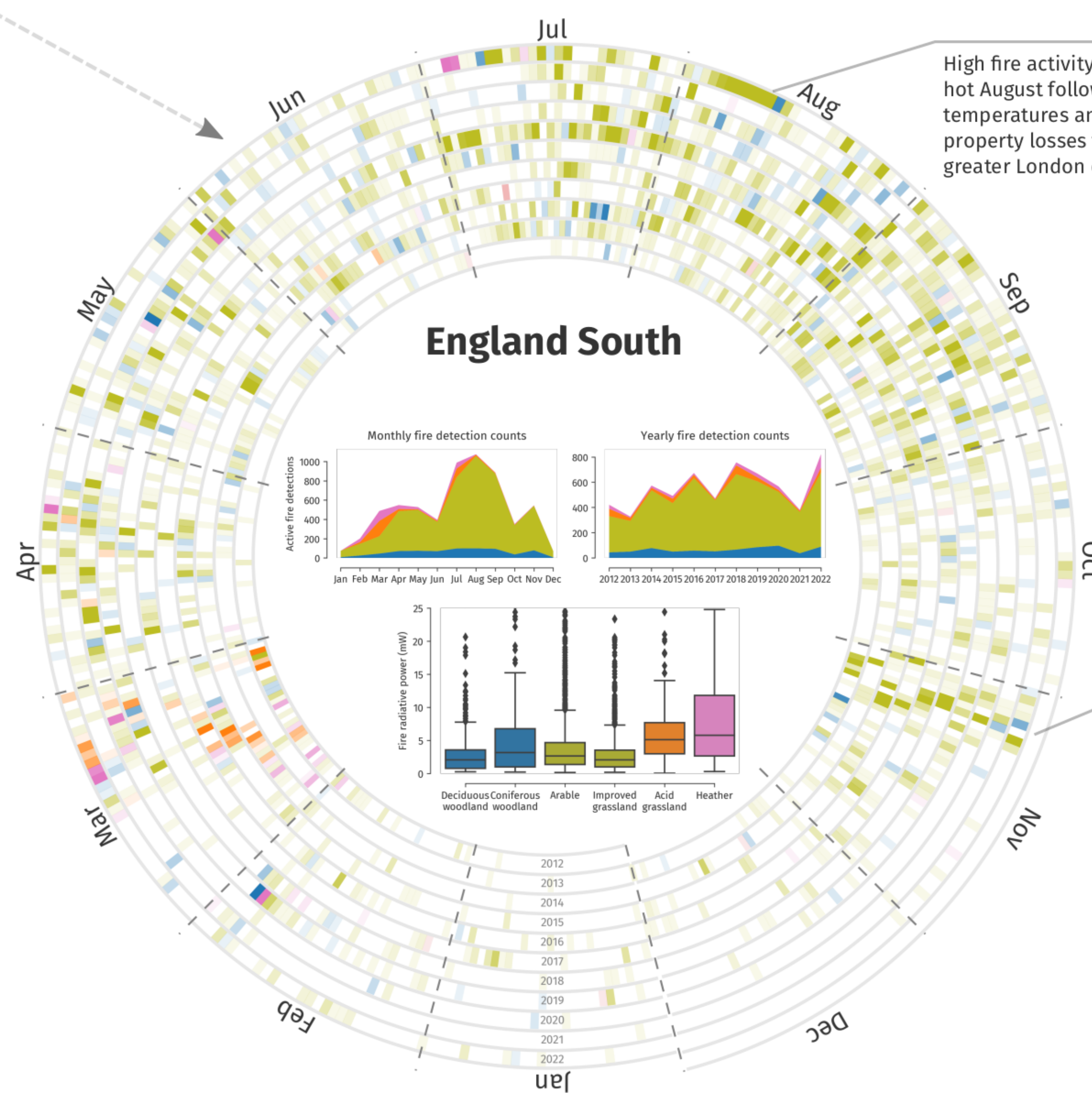
The summer of 2018 was exceptionally dry and hot in Wales

Fire activity in March 2022 was the highest in Wales in the record, with multiple fires burning primarily in grasslands.



High fire activity persists during dry and hot August following the record-breaking temperatures and unprecedented property losses from vegetation fire in greater London on 19th July.

Elevated fire activity in the beginning of November is very likely due to false detections of fireworks associated with Guy Fawkes night celebrations. Most prominent in South England and North England, not present in Northern Ireland.



**The Method.** We combine VIIRS sensor active fire record with Centre for Ecology and Hydrology Land Cover Maps to retrieve land cover type for each fire detection in the UK between 2012 – October 2022. Colour indicates dominant land cover type, while colour opacity is indicative of fire detection count for that day.



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