

MOURNE AONB · NORTHERN IRELAND · 2016–2026

# Where the Mourne fires begin.

A satellite-based study of ten years of wildfire activity in the Mourne Mountains finds a pattern that is anything but random. Fires happen at the same times of year, on the same days of week, and increasingly in the same places.

**9,400+**RAW SATELLITE  
FIRE DETECTIONS**40**DISTINCT FIRE  
EVENTS IDENTIFIED**16/16**SUSPECTED-ARSON EVENTS  
IN MARCH OR APRIL**9/16**SUSPECTED-ARSON EVENTS  
ON A WEEKEND

## § 01 · KEY FINDINGS

### A pattern, not a coincidence.

#### TIMING

16 of 16 events identified as consistent with deliberate ignition fell in March or April. Not one outside this window. The pattern brackets the legal heather-burning deadline of 14 April.

#### WEEKEND BIAS

9 of 16 events occurred on a Saturday or Sunday. Sunday alone carries 7 — over four times the daily average.

#### RECURRENCE

A small number of zones account for a disproportionate share of activity. Each individual fire is no longer a one-off event but part of a decade-long pattern of recurrence.

#### ECOLOGY

Gorse and heather take 3–7 years to recover post-burn. Repeat ignitions therefore migrate to adjacent unburnt fuel, leaving a forensic trail of displacement that is itself diagnostic.

## § 02 · METHODOLOGY

### Open data, reproducible findings.

#### 01 PULL

NASA FIRMS Area API across MODIS and VIIRS sensors. ~9,400 raw detections.

#### 02 DEDUPLICATE

Overlapping satellite passes collapsed at ~110m / 1-hour resolution.

#### 03 CLUSTER

DBSCAN with haversine distance. 500m radius, minimum 5 detections per zone.

#### 04 CLASSIFY

Each cluster scored on night-fraction, recurrence, FRP, and seasonality.

#### WHAT IS NOT ARSON

Three clusters initially flagged were reclassified after temporal analysis: every detection fell on or around 12 July. These are cultural community bonfires, not arson, and are excluded from the analysis. The methodology surfaces them — a sign it is working as intended.

## § 03 · WHAT THIS DOES, AND DOES NOT, DO

This analysis identifies statistical patterns. It does not prove deliberate ignition for any individual event, and it does not name individuals. Specific coordinates of recurring zones, per-event origin points, and predictive analysis are held back from public release to protect the operational value of any subsequent investigation. Findings supplement, not replace, the formal investigation activity of the NIFRS and PSNI.