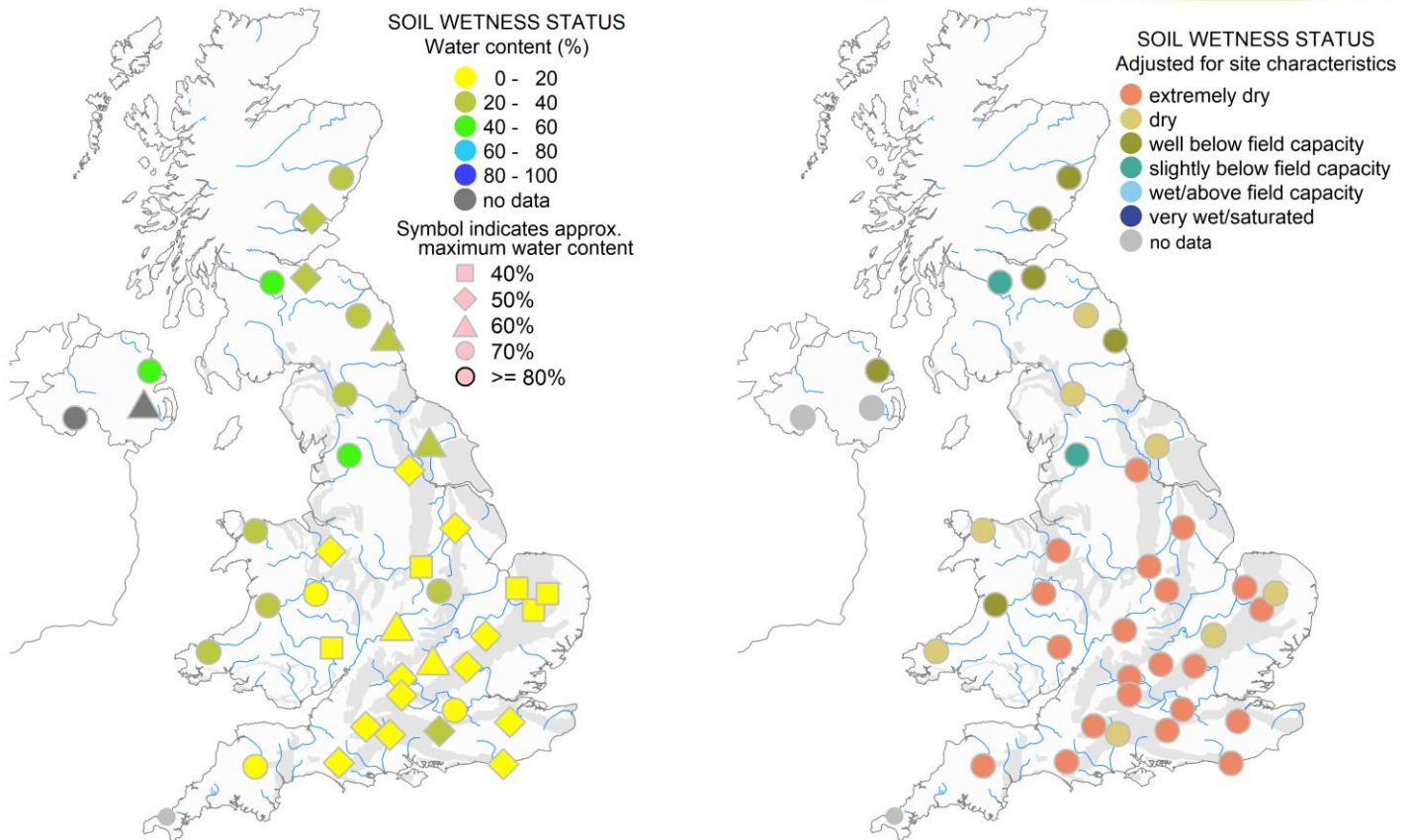




Soil moisture on 31 July 2026 (see back page for explanatory comments).

Continued heat and lack of precipitation throughout much of the UK this July saw a drought being declared for much of Southern and Central England, and all of Wales, towards the end of the month. This has led to record-low soil moisture across the COSMOS-UK network.

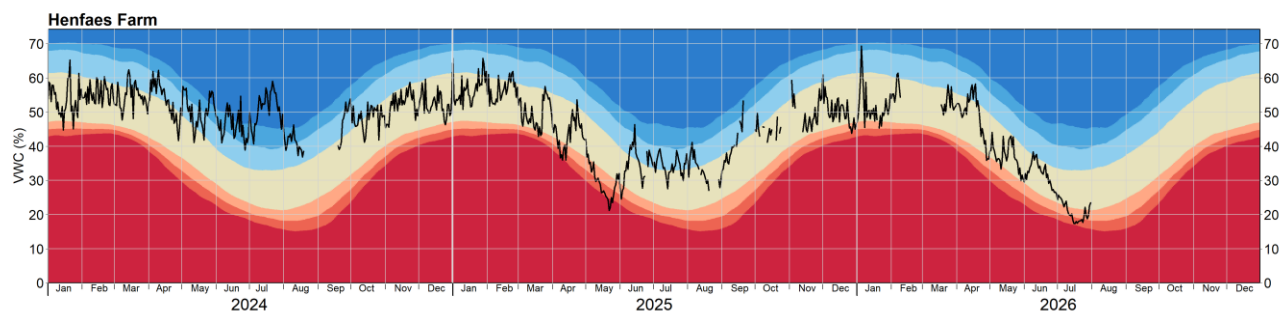
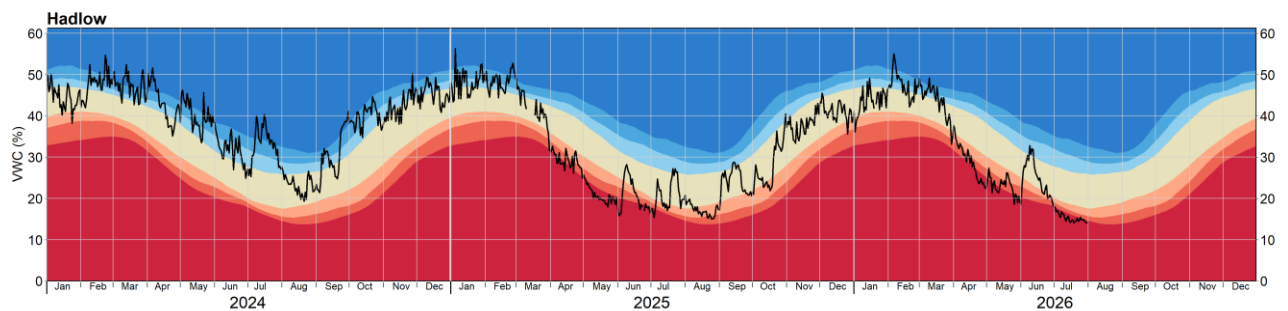
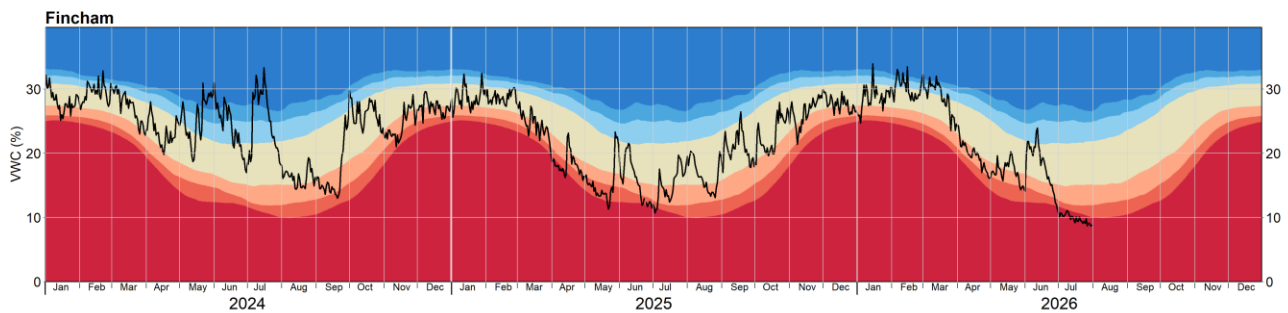
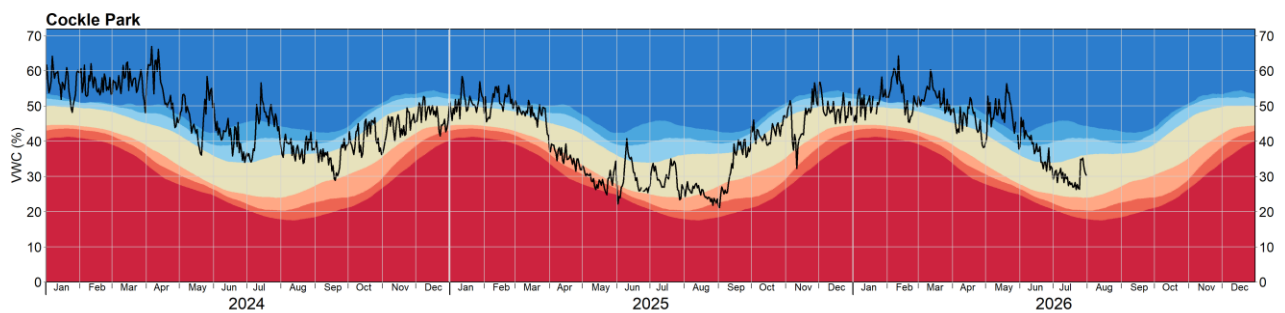
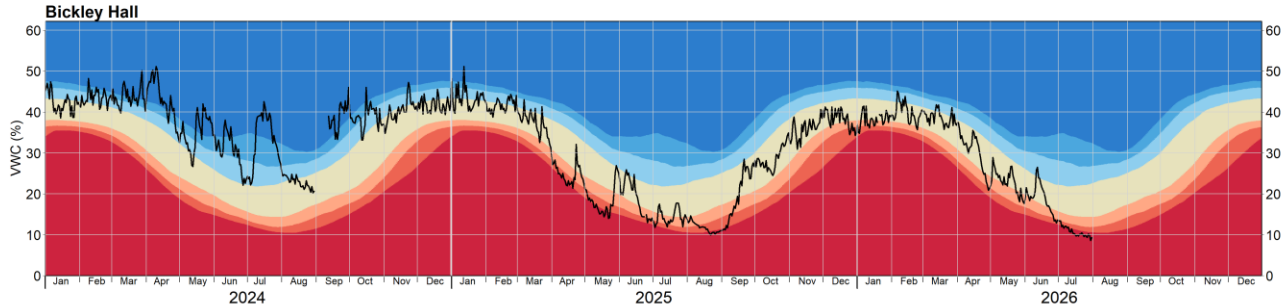
This month was characterised by hot weather and low precipitation, with this July being the driest on record for England and Wales, with just 6.5 mm of rain, or 9% of average rainfall (based on data stretching back to 1836). The driest areas were South East England (2% of average, and the driest month ever on record), Central England (2% of average), and the South West (5% of average). Northern Ireland also saw limited precipitation (28% of average), and Scotland saw 67% of average.

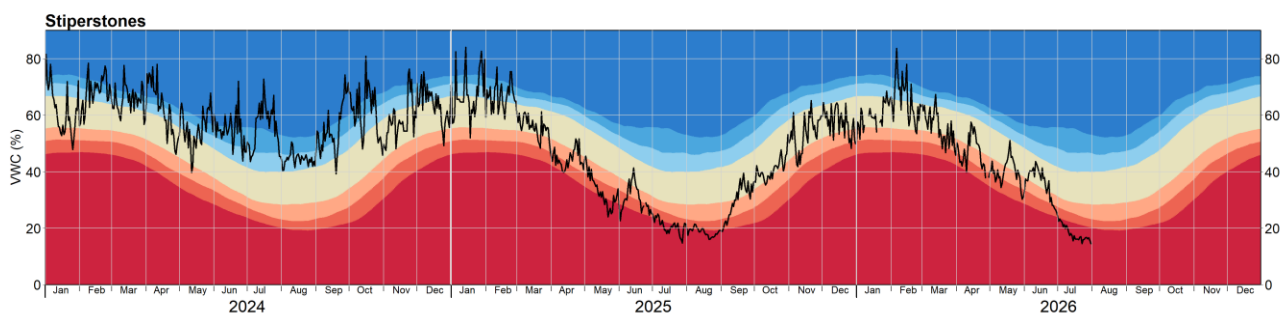
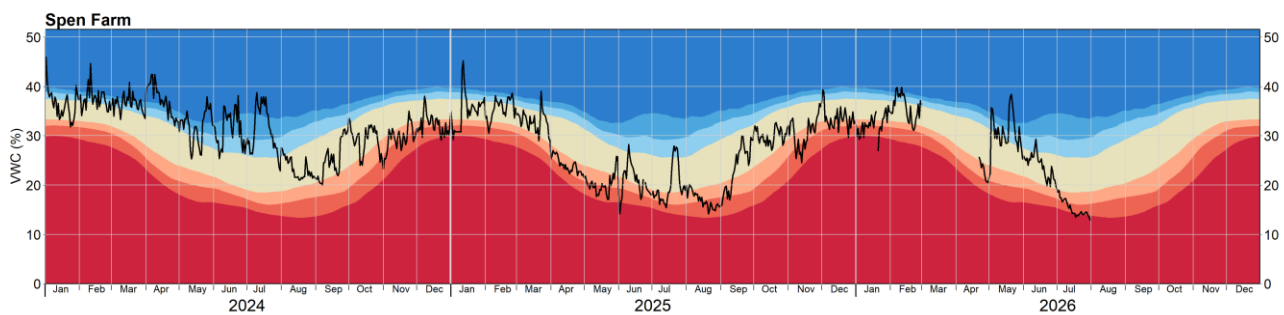
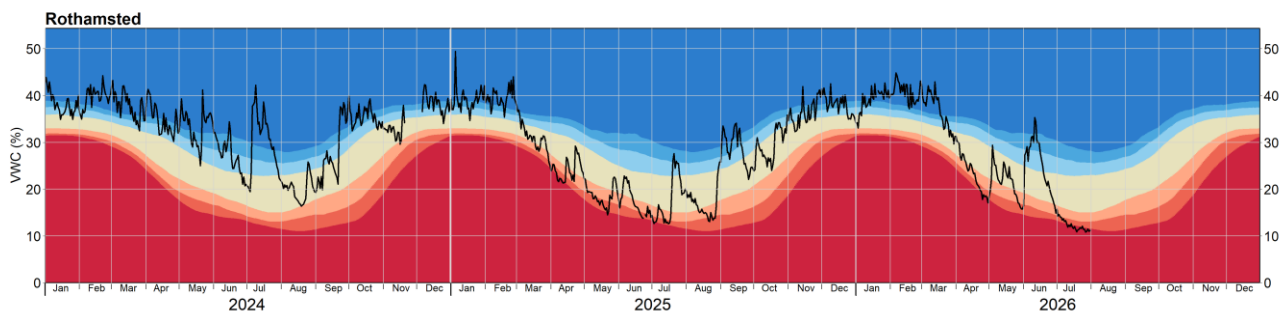
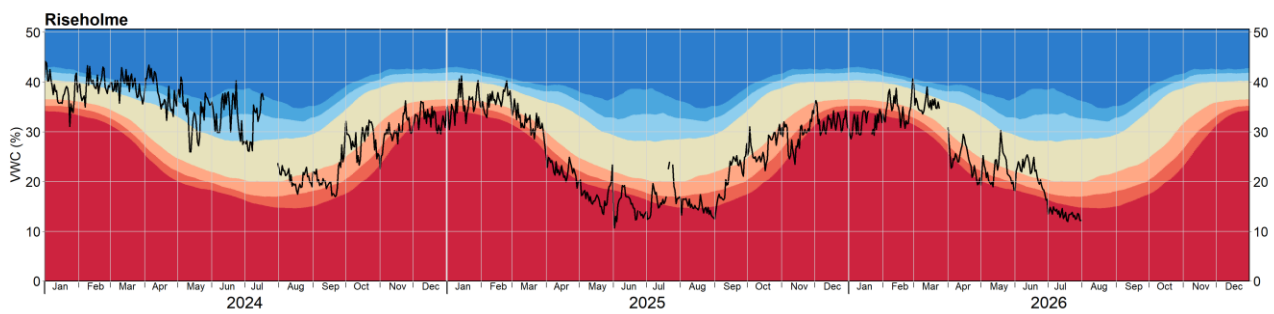
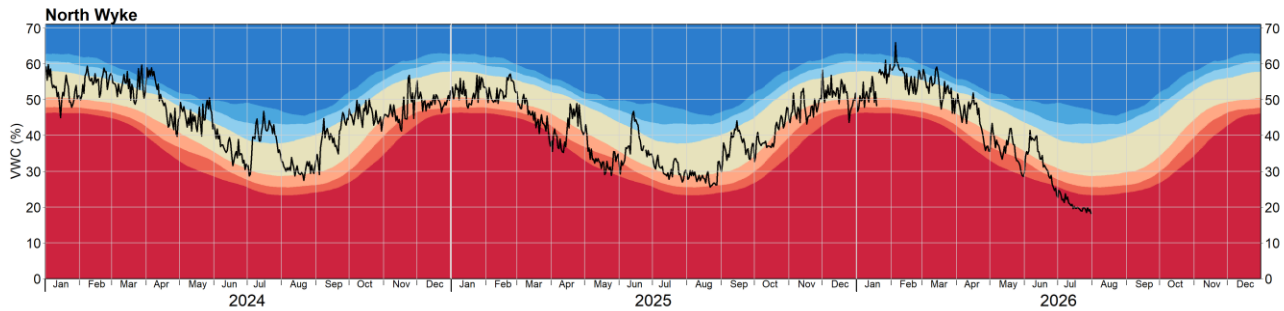
The lack of precipitation and continuous high heat levels this month saw record lows for soil moisture set across multiple COSMOS-UK sites across England and Wales. Lowest ever recorded daily volumetric water content site records were seen at Bickley Hall (8.88%), Fincham (8.71%), Henfaes (17.2%), North Wyke (18.4%), Spen Farm (12.93%), and Stiperstones (14.73%). All these sites also recorded their driest month on record, and 7 other sites (Hadlow College, Holme Lacy, Heytesbury, Lullington, Rischolme, Rothamstead Research, and Sheepdrove) also recorded their driest month on record.

Forecasts for August suggest some rainfall across Scotland, Northern Ireland, and Northern England, but little change for the rest of England and Wales. The network will likely not see significant recovery in soil moisture.

Network news

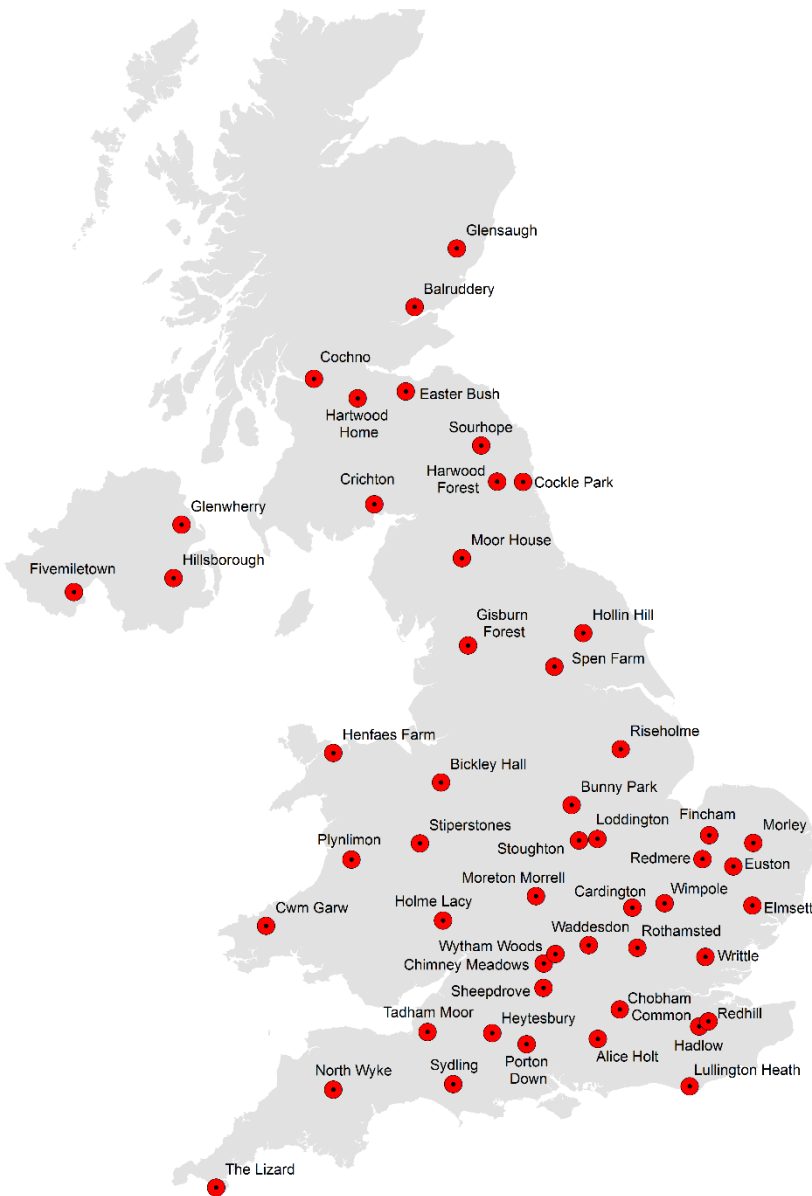
Preventative maintenance site visits ramped up again this month with visits to Camborne, North Wyke, Euston, Moreley, Fincham, Hartwood Home Farm, Easter Bush, Glensauigh, Cwm Garw, Balruddery, Plynlimon, Porton Down and Henfaes. Reactive maintenance visits to repair faulty sensors occurred at Loddington, Sydling, and Moreton Morell. Connection issues persist at Fivemiletown and Hillsborough.







Issued on 10 August 2026



About the maps on page 1: The maps show daily mean soil moisture on the last day of the month. Colours indicate wetness as in the legends.

The map on the left shows wetness as the volumetric water content (VWC) of the soil which is constrained by soil type, i.e. some soils are able to hold more water than others as indicated by the shape of the symbol.

The map on the right presents soil wetness adjusted for site specific characteristics, i.e. taking account of the possible range of soil wetness at each site. Field capacity (FC) is a key point in this range. When soil moisture is below FC soil moisture is said to be in deficit, i.e. there is a (positive) soil moisture deficit (SMD).

Grey shaded areas on these two maps represent principal aquifers.

About the graphs on pages 2 and 3: The black line shows VWC. The coloured bands indicate how VWC compares to historical variability for the site and time of year.



About soil moisture: Soil moisture varies in the short term (hours to days) with rainfall and as water drains through the soil. Longer term variation is driven by the seasonal difference between rainfall and evaporation. Thus soil moisture decreases in the summer when evaporation exceeds rainfall but increases when this is reversed. In most winters under UK conditions, soil moisture reaches a relatively constant value, known as the field capacity. Field capacity is a measure of how much water the soil can hold against gravity and is strongly dependent on the soil type. Soils are expected to be around field capacity after being wetted to above field capacity and the excess water (e.g. from macropores) has drained away under gravity, which can take several days after heavy rain, to reach a near steady state. Differences in soil type and weather patterns cause variations in soil moisture between sites including when the soil returns to field capacity in autumn/winter and when soil moisture decreases in the spring/summer.

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