

Soil moisture on 28 February 2026 (see back page for explanatory comments).

**Above-average rainfall across most of the UK led to 95% of sites maintaining soil wetness or becoming wetter during February.**

Provisional data indicate that England received 70% above the long-term average rainfall, while Wales and Northern Ireland received 35% and 30% above their long-term averages, respectively. Scotland, however, had a slightly drier month, recording rainfall 17% below the long-term average. The UK saw the 4<sup>th</sup> lowest sunshine hours in a February since records began, with Wales seeing its dullest February on record.

Soil moisture remained high across the network, with many sites maintaining soil wetness from January or becoming wetter. In England, sites in the South and Midlands (e.g. Heytesbury, Lullington, Riseholme, and Rothamsted) all recorded stable or increasing wetness, consistent with the above-average rainfall England received during the month. In Northern Ireland, Fivemiletown similarly saw increased wetness, reflecting the above-average rainfall across that region. Scotland and the border region presented a more mixed picture, where the slightly drier February kept most sites stable. Sourhope and Glenwherry are exceptions, recording soil moisture below field capacity by the end of the month.

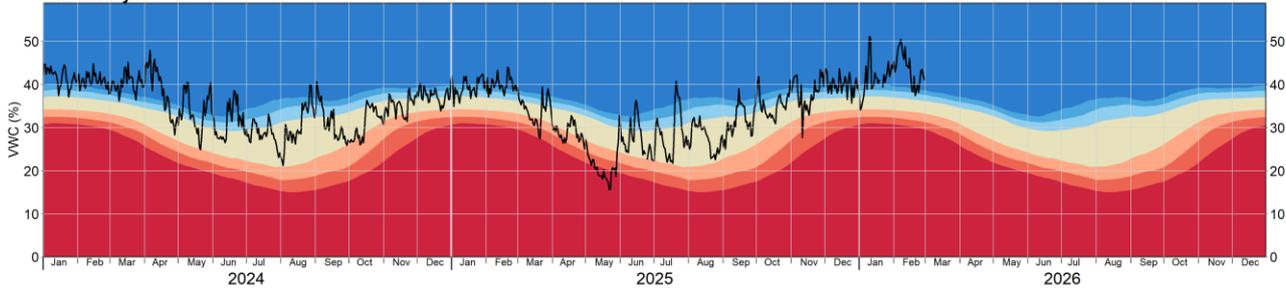
Overall, soil moisture across the COSMOS-UK network is high due to the sustained wet conditions that have characterised much of the last couple of months.

### Network news

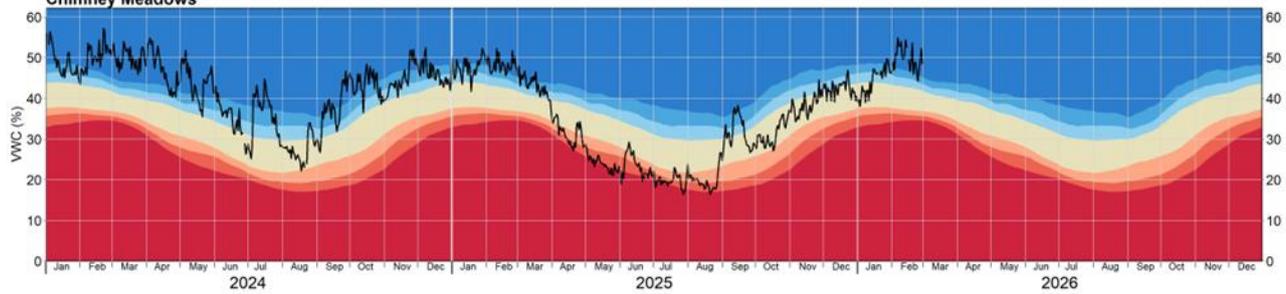
This month included small works across the network, such as fence repairs at Hadlow, and two reactive maintenance visits to replace faulty sensors and batteries at Euston and Stiperstones. A few sites (e.g. Glensaugh) experienced telemetry issues due to significant cloud cover resulting in power outages on our solar-powered network. Nevertheless, most data were saved locally and uploaded after the batteries had recovered. Next month, Elmsett and The Lizard are due for decommissioning, while new sites will be installed at Camborne and Barony.



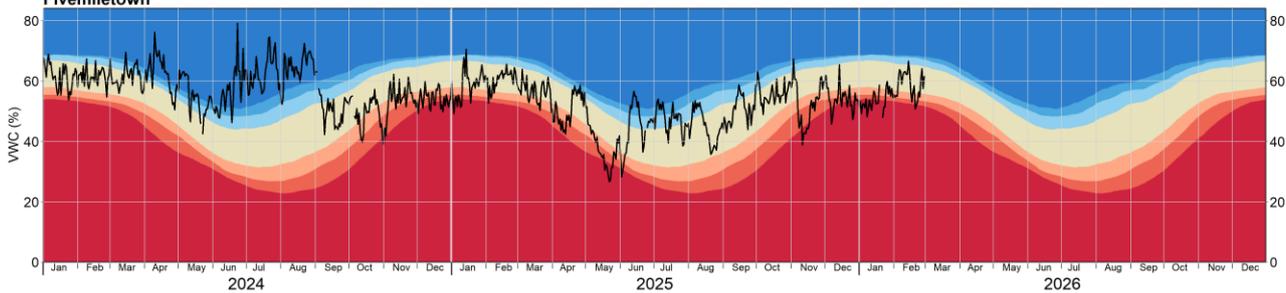
Balruddery



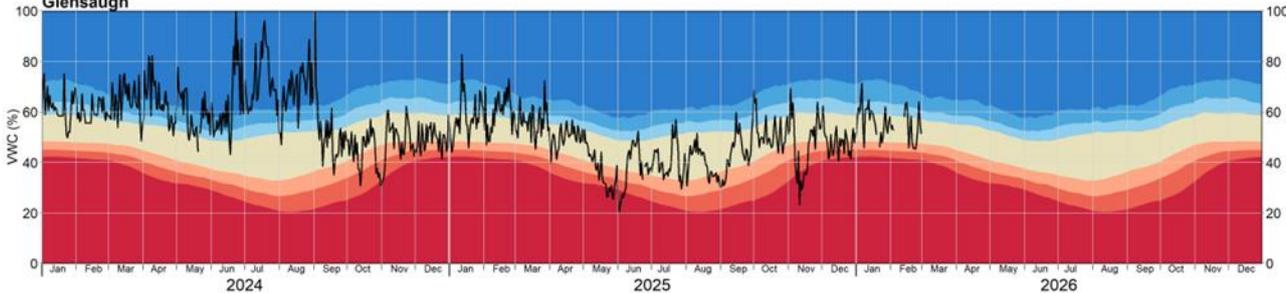
Chimney Meadows



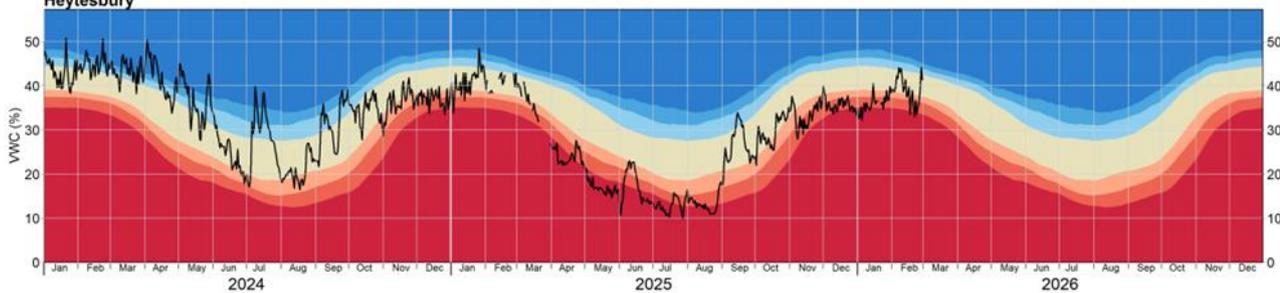
Fivemiletown



Glensaugh

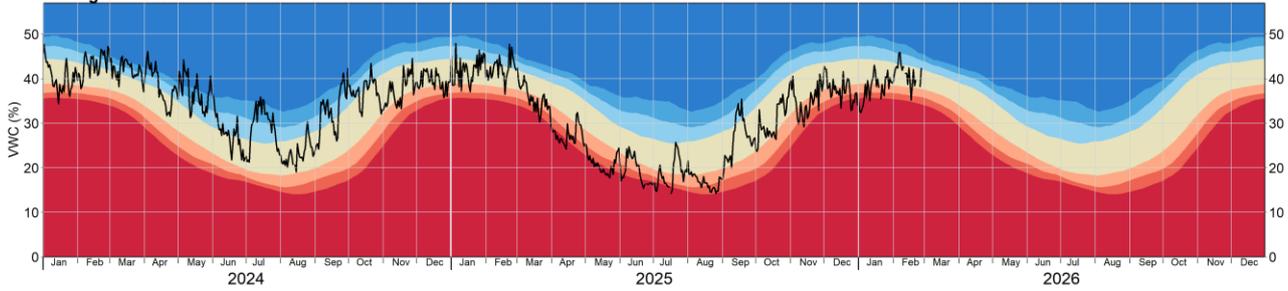


Heytesbury

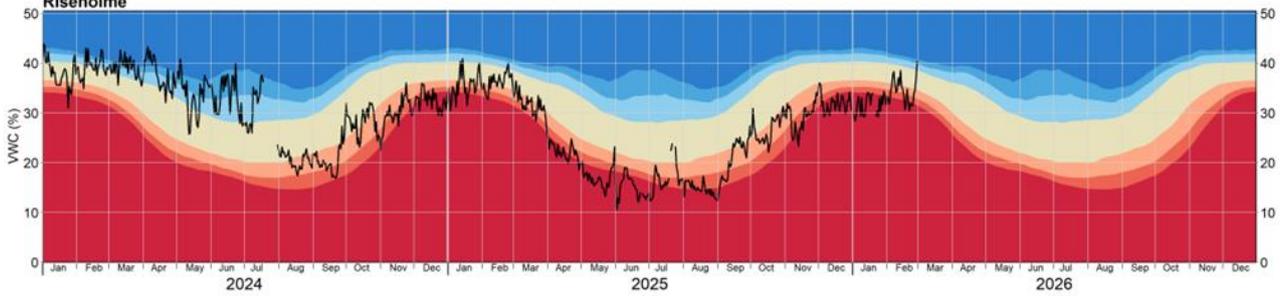




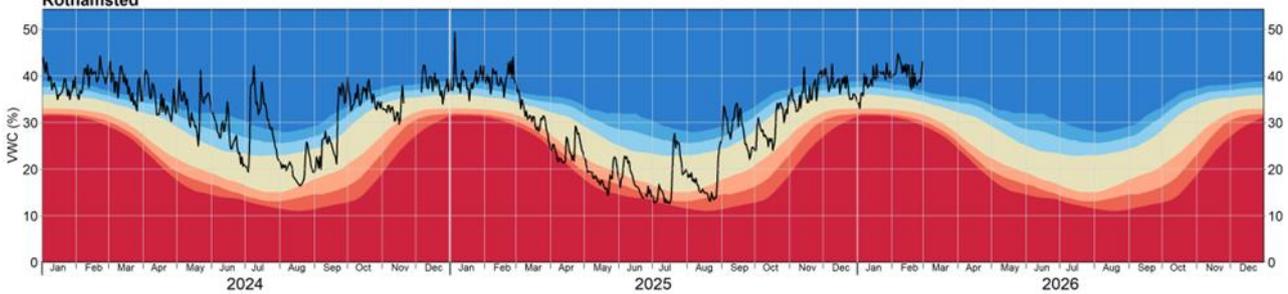
Lullington Heath



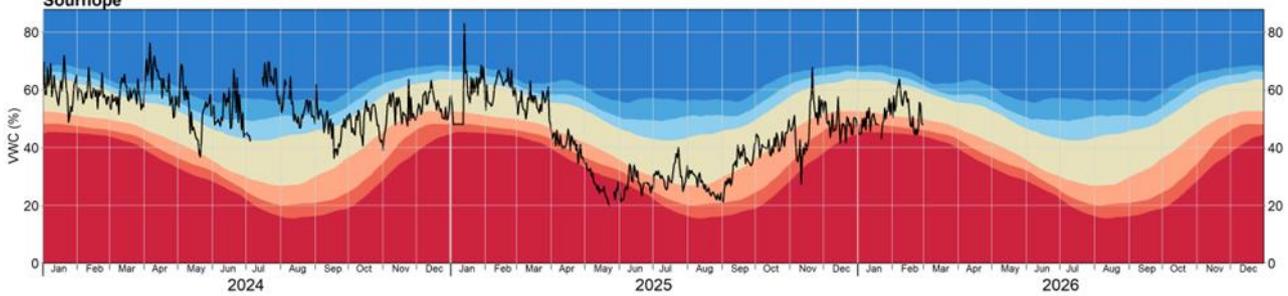
Riseholme



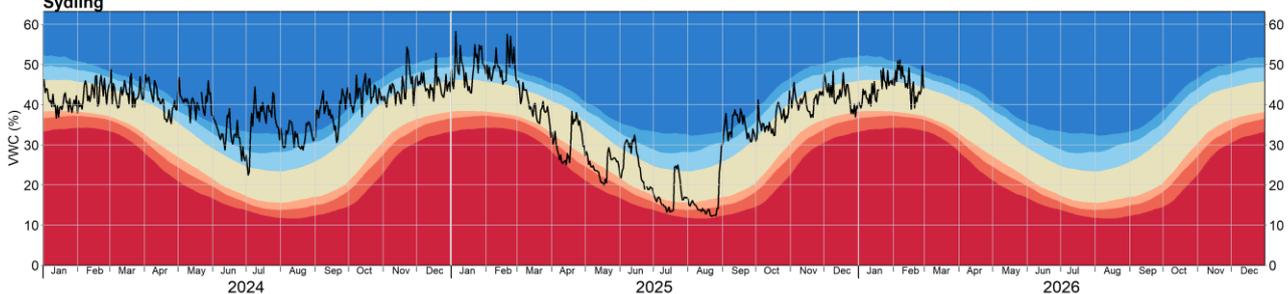
Rothamsted

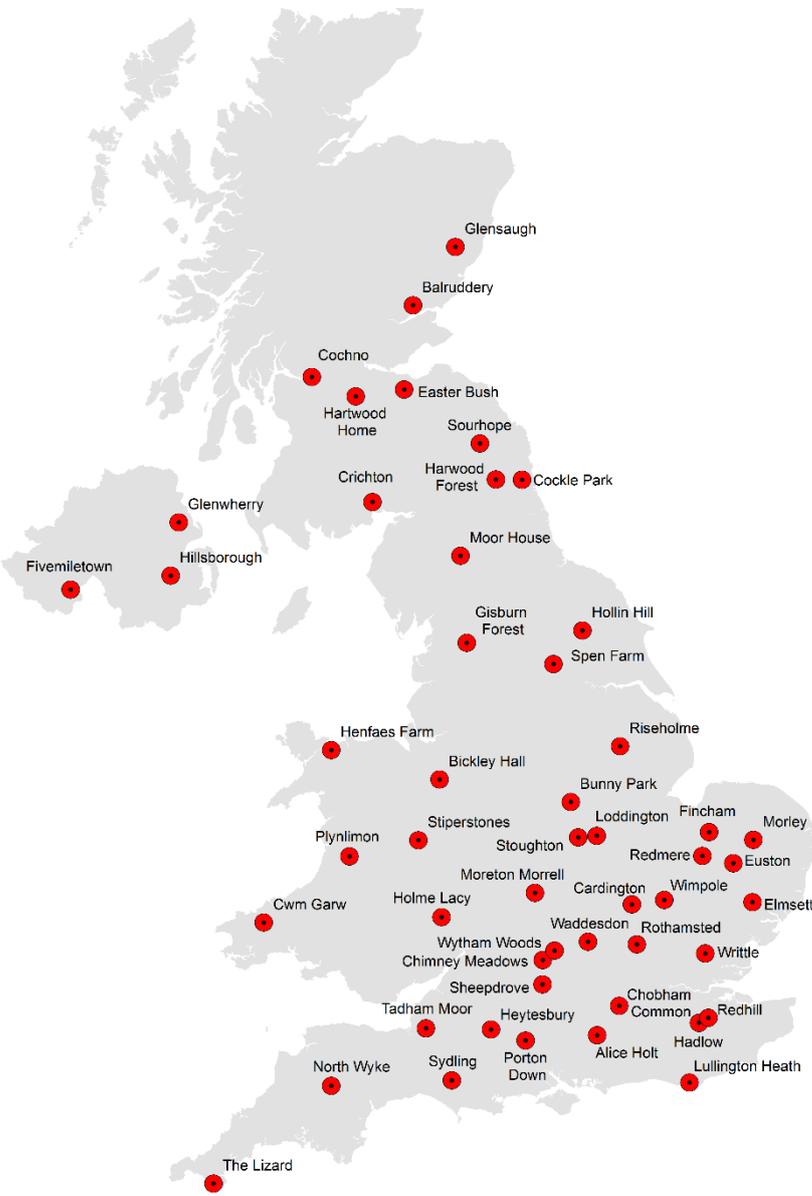


Sourhope



Sydling





**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.

- exceptionally dry
- notably dry
- drier than normal
- normal
- wetter than normal
- notably wet
- exceptionally wet

**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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