

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

Higher-than-average rainfall in many regions has led to a soil moisture recovery across the COSMOS-UK network after a drier end to December

Provisional data indicate that rainfall in January was 51% above the long-term average for England and Wales as a whole, close to average for Scotland, and 58% above average for Northern Ireland, but there was significant regional variation. Cornwall was the wettest region, provisionally recording its wettest January on record with 268mm of rainfall. At the beginning of the month, Storm Goretti brought high winds to Cornwall and the Isles of Scilly and snow to North Wales, the West Midlands and the South Pennines. Storm Ingrid brought heavy rain to the south on the 24th, and Storm Chandra on the 26th brought more rain to the southwest. Provisional temperatures were 0.5°C below average for the month.

By the end of the month, soil moisture at most COSMOS-UK sites was above field capacity, with only five sites slightly below it. At some sites, values from the neutron sensors were influenced by a solar event on the 20th (e.g., Glenwherry, Lullington, Moorhouse, Sourhope, Spen Farm), but this data has been removed. By the end of the month, soil moisture at most sites was either normal for the time of year or slightly wetter than usual after a dry end to December. The wettest sites by the end of the month were in Northern Ireland, Scotland and the south (e.g., Balruddery, Hillsborough, Porton Down, Rothamsted). Soils across the COSMOS-UK network have 'wetted up' towards the end of the month, and only a couple of sites remain drier than usual for the time of year (e.g., Glenwherry, Riseholme).

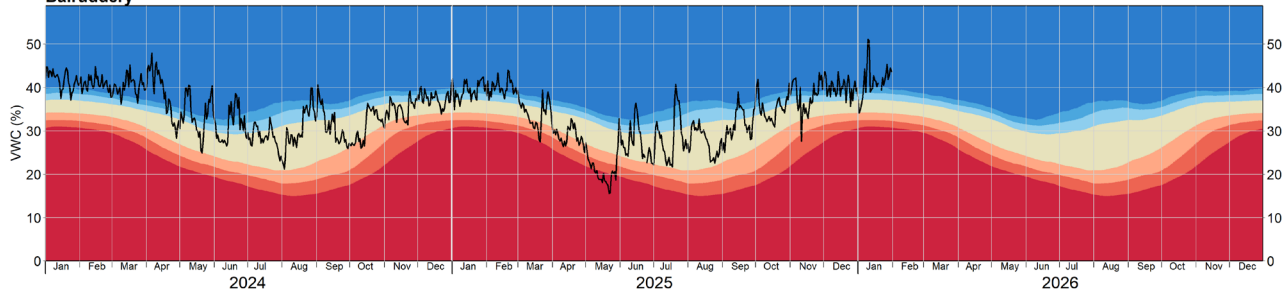
Overall, higher-than-average rainfall in many regions has led to a soil moisture recovery at most COSMOS-UK sites.

Network news

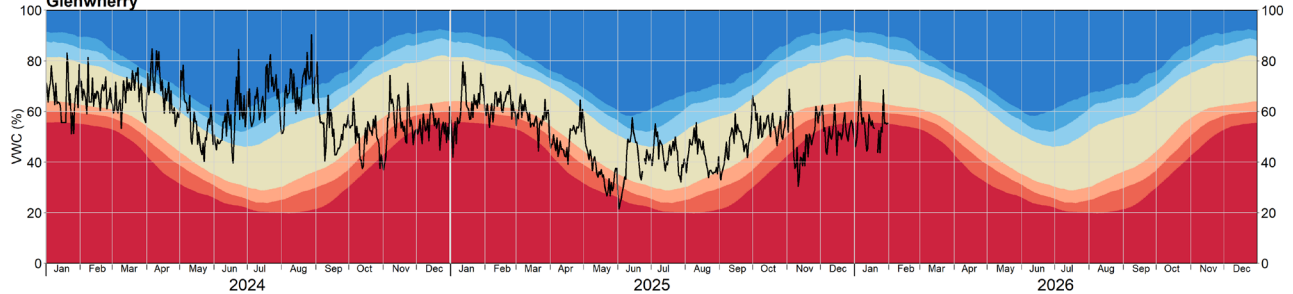
The Redhill site was decommissioned on the 30th of January, leaving two further sites to be decommissioned before March.



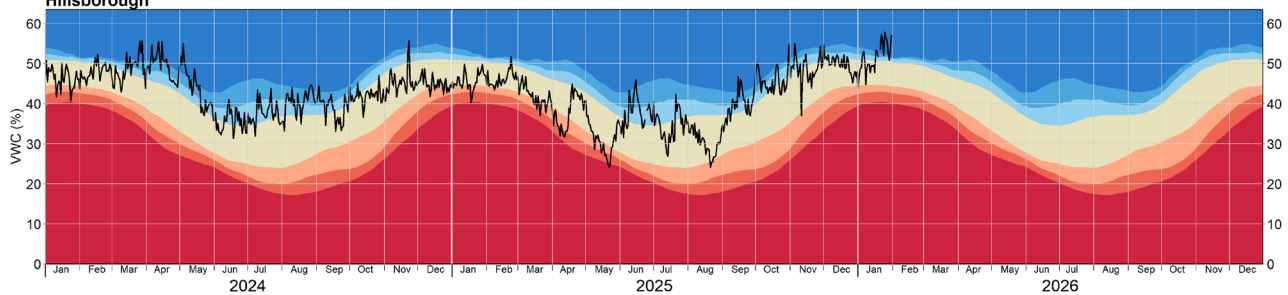
Balruiderry



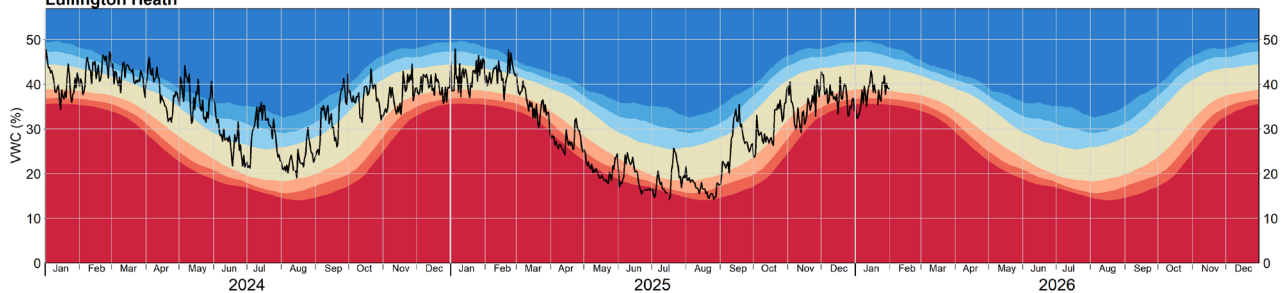
Glenwherry



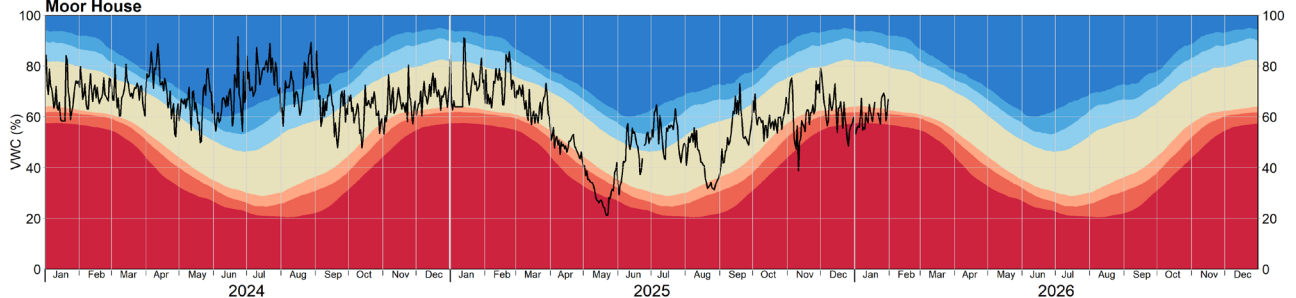
Hillsborough

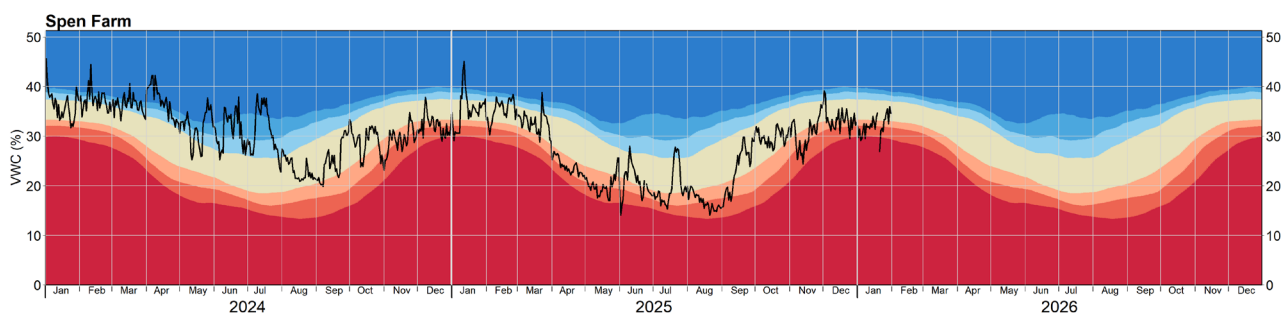
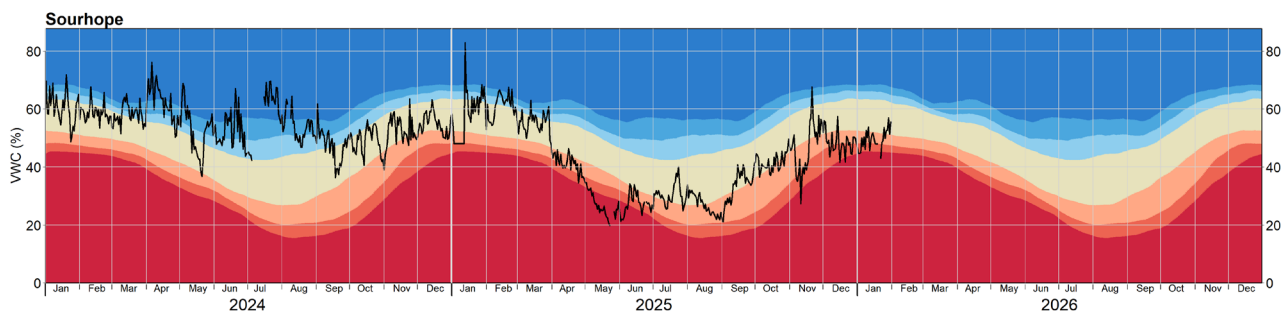
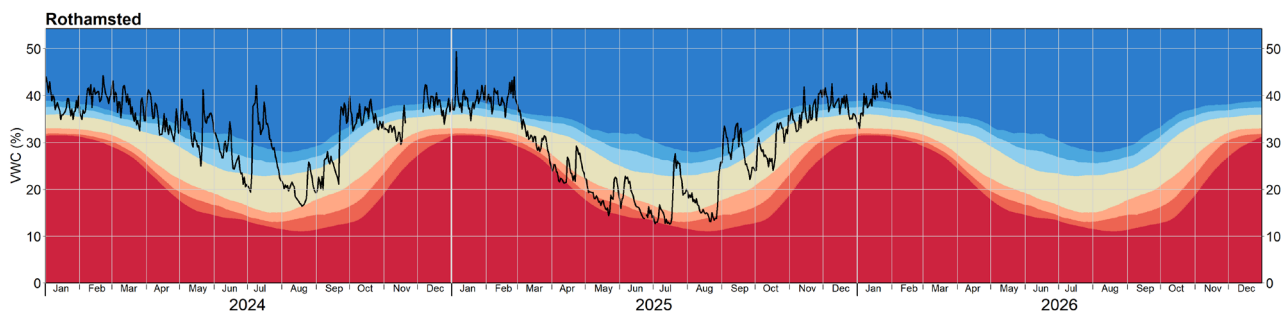
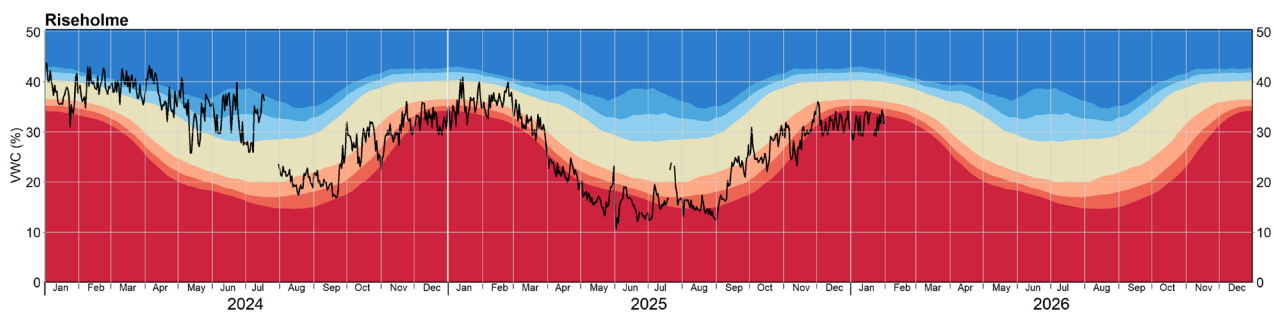
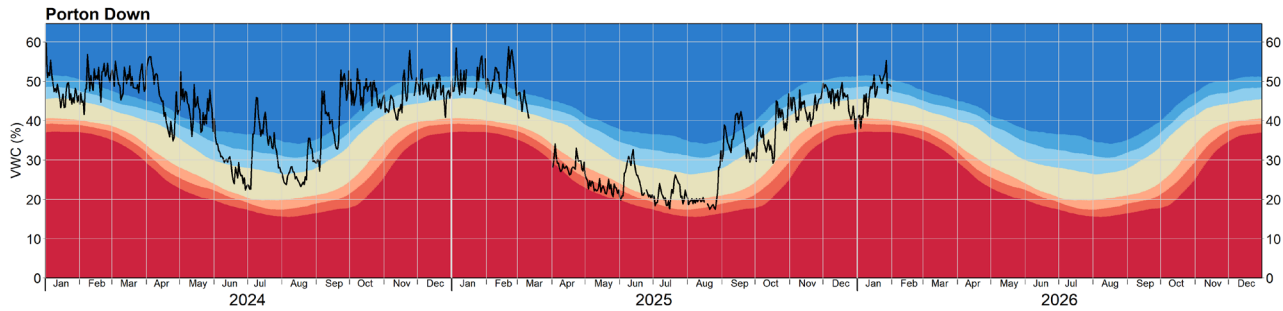


Lullington Heath



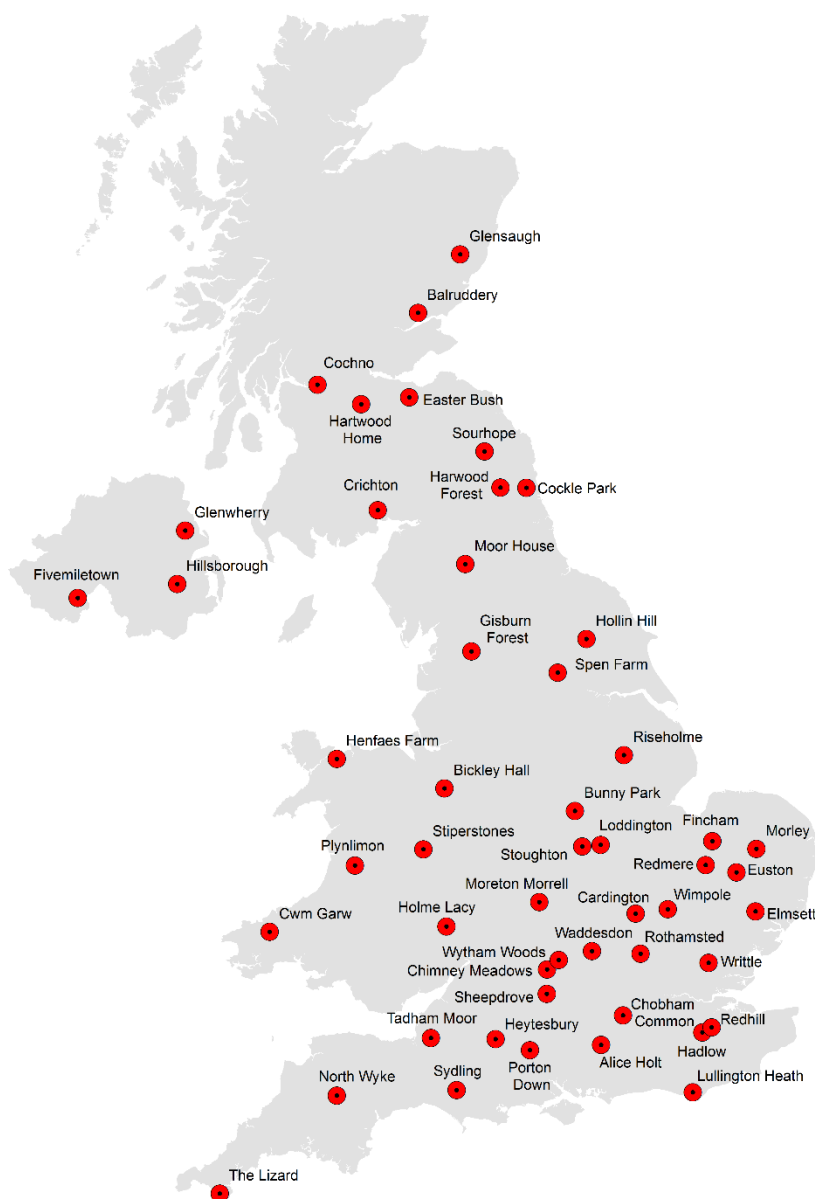
Moor House







Issued on 11 February 2026



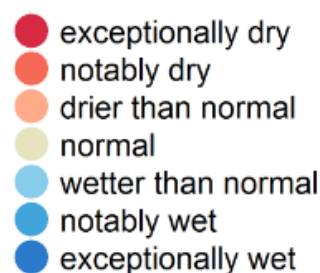
About the maps on page 1: The maps show daily mean soil moisture on the last day of the month. Colours indicate wetness as in the legends.

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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