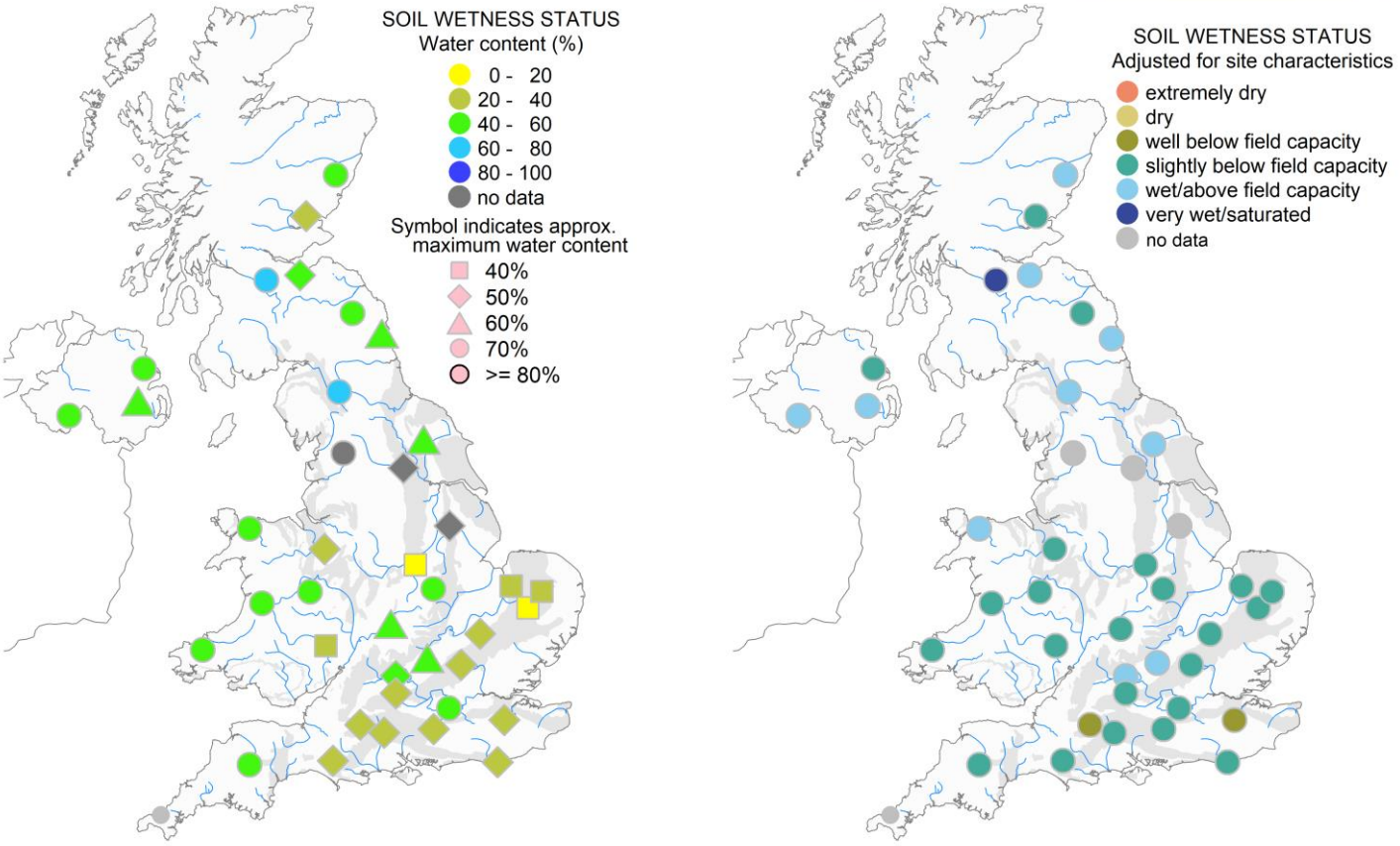
COSMOS-UK | soil moisture

Issued on 13 April 2026



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

Changeable weather brought below-average rainfall across England and Wales, which saw many sites becoming drier, particularly in the Midlands, Southern England and Wales.

The UK overall received close to the average rainfall for the month of March, although with major regional variations. Northern Scotland and the Northwest of England saw above average rainfall (111% and 117% respectively of average rainfall), whereas the rest of the UK saw below average rainfall, particularly the Southwest and Southeast of England which saw 61% and 53% respectively of average rainfall for the month.

Soil moisture dropped across the Midlands, the South of England, and Wales, with the majority of sites in these areas now sitting below field capacity. Some of the sharpest declines in soil moisture could be seen at sites such as Bunny Park, Euston, Hadlow College, Porton Down, and Rothamsted. Sites situated in the North of England, Scotland, and Ireland maintained soil moisture levels similar to those seen last month, with only two exceptions (Balruddery and Fivemiletown).

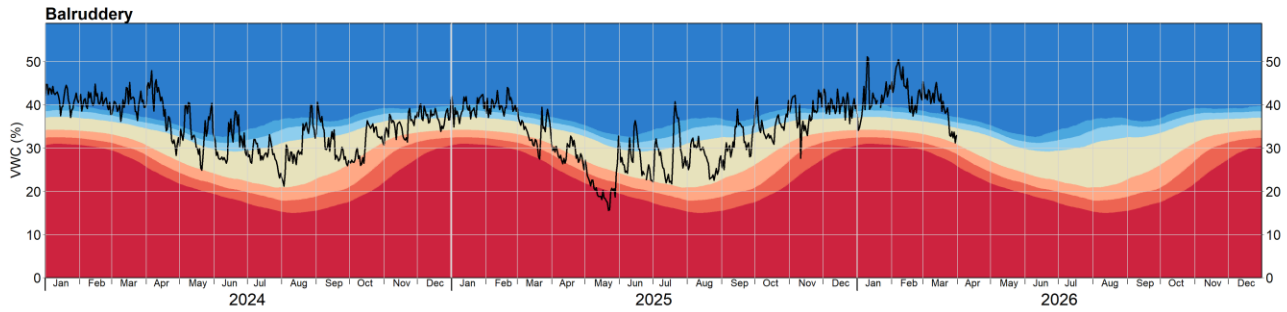
Above average temperatures throughout the UK and below average rainfall across the South has led to much of the network drying noticeably in comparison to the previous two wet months.

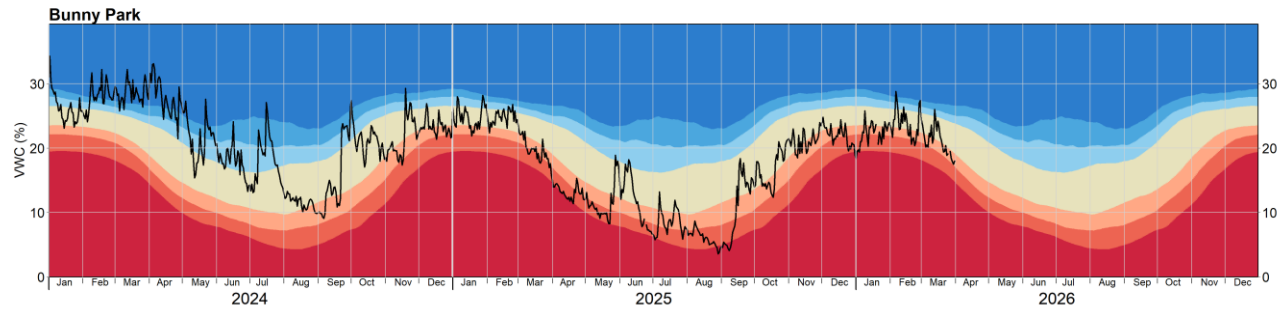
Network news

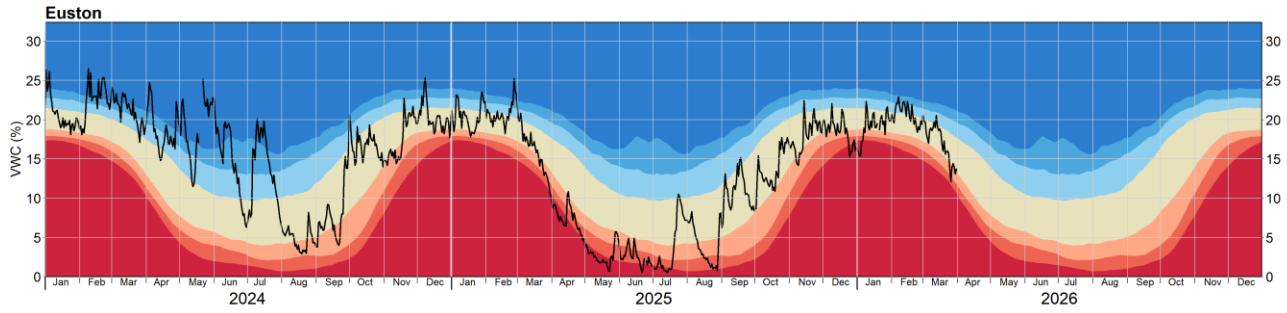
This month saw the culmination of the restructuring of our network across the UK, with Elmsett and the Lizard being decommissioned, and our new site in Camborne being installed towards the end of the month. Our plots above have been updated to remove these sites, as well as a handful of previously decommissioned ones. The COSMOS-UK network now stands at 40 sites across the UK. Our annual planned preventative maintenance cycle also began towards the end of the month with visits to sites at Riseholme and Bunny Park.

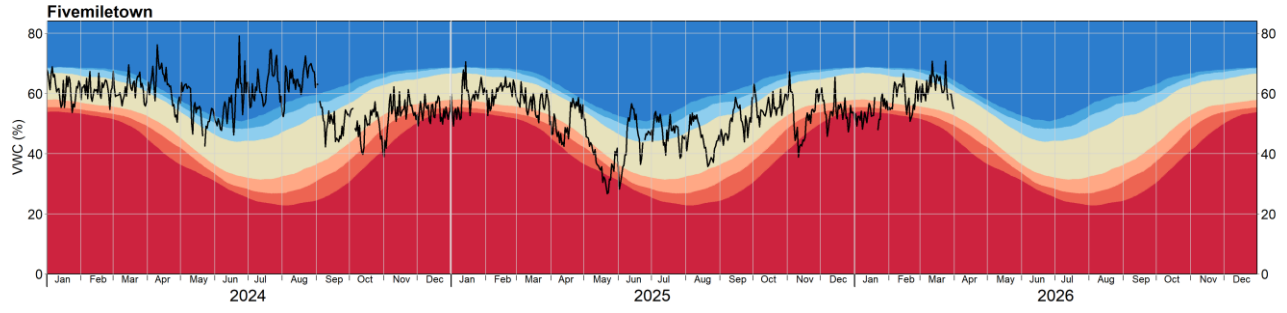
COSMOS-UK | soil moisture

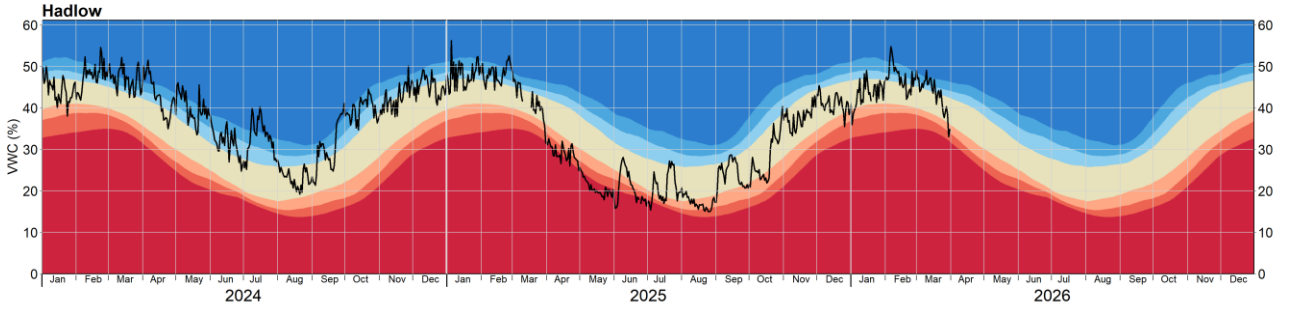
Issued on 13 April 2026





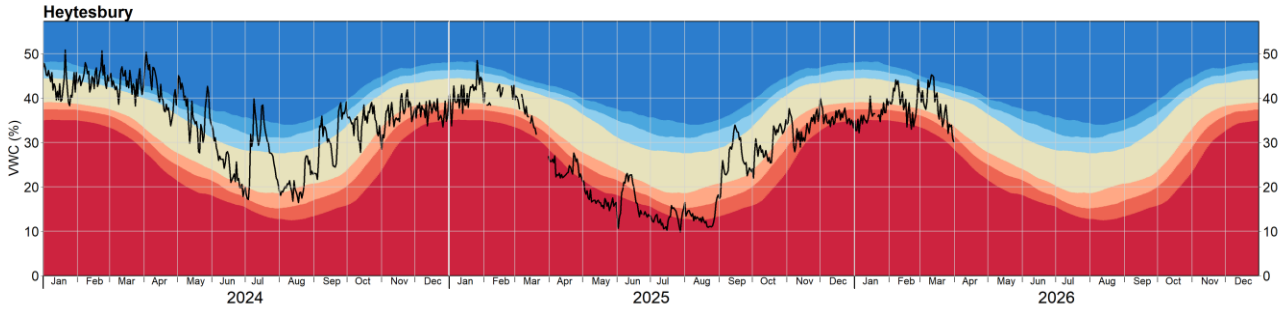


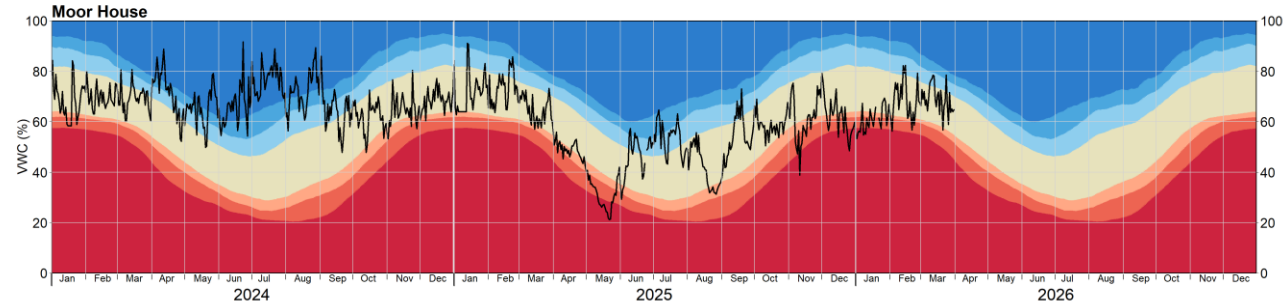


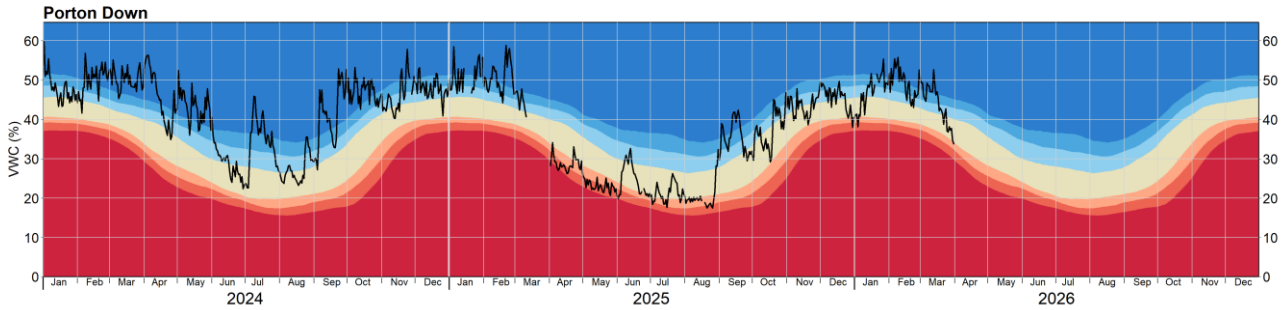


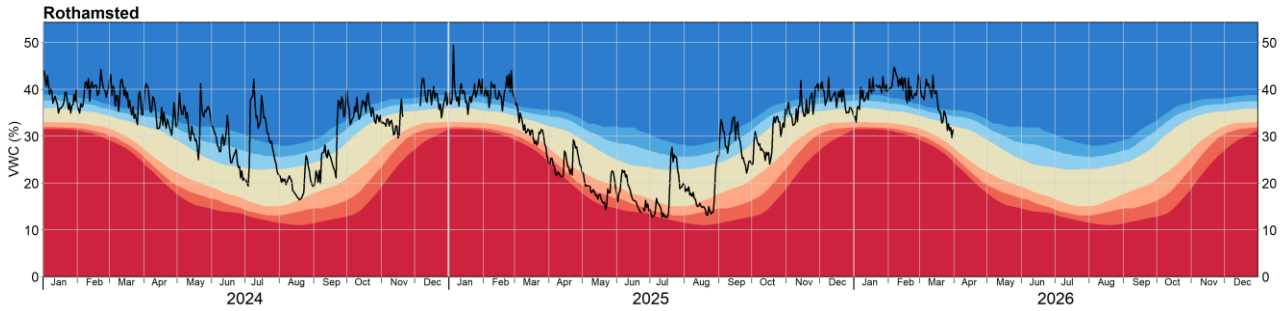
COSMOS-UK | soil moisture

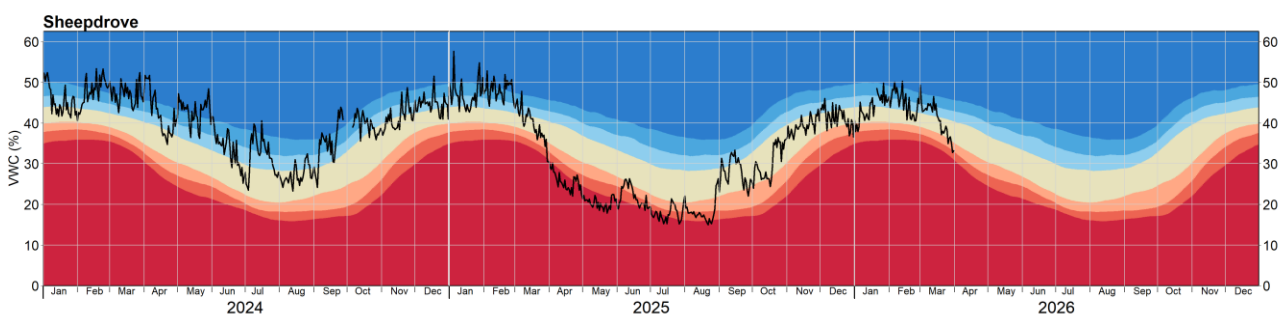
Issued on 13 April 2026





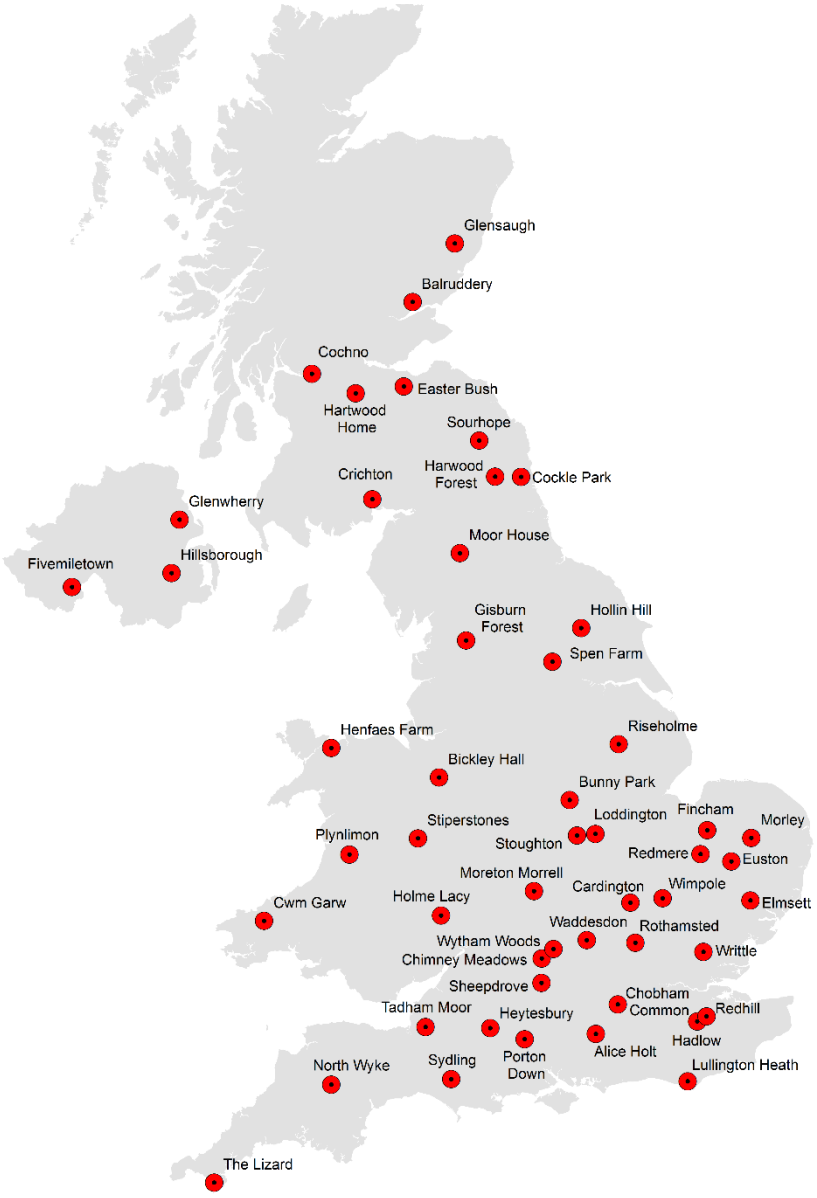






COSMOS-UK | soil moisture

Issued on 13 April 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.

- 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.

About COSMOS-UK: COSMOS-UK is supported/partially supported by NERC, through the UKCEH National Capability for UK Challenges Programme NE/Y006208/1.

UK Centre for Ecology & Hydrology

CosmosUK@ceh.ac.uk
cosmos.ceh.ac.uk