Soil moisture is generally normal for the time of year to the north and west of the UK, and below normal elsewhere. In some parts of central and eastern England soil moisture is well below normal for the time of year.

Provisional rainfall data for April indicate that rainfall was very much below normal in central and south-eastern England, slightly below normal in north-east England, and southern Scotland, and in the normal range elsewhere in the UK. The start of April saw rainfall across most of the UK with the heaviest rainfall to the north and west, and mid-month there was some heavy rain to the west of the UK (over 30mm at The Lizard). Storm Hannah, towards the end of the month, again brought some heavy rain to western parts of the UK (over 70mm at Plynlimon).

At sites in central and eastern England soil moisture at month end is well below normal, after a rapid decline during the month that was arrested by the rainfall associated with storm Hannah (e.g. Cardington, Elmsett and Lodddington).

Month end rainfall led to the rapid recover in soil moisture at some sites; while despite this recovery soil moisture at some sites remains below normal (e.g. Bunny Park), at other sites soil moisture has returned to normal levels for the time of year (e.g. Crichton, Bickley Hall).

Elsewhere changes in soil moisture have been less dramatic with soil moisture being close to normal for the time of year throughout the month (e.g. Hillsborough, The Lizard, North Wyke, Easter Bush)

Note that the COSMOS-UK records are too short to reliably estimate long-term monthly averages and departures from them; it is therefore only possible to give qualitative indications about averages and what is typical for the time of year.

* This summary was re-issued on 7 May 2019 to remove the reference to storm Gareth which was in mid-March, not mid-April.
COSMOS-UK
UK Soil Moisture Monitoring Network

soil moisture

Issued on 1 May 2019

Loddington 2017/2019

Cardington 2017/2019

Elmsett 2017/2019

North Wyke 2017/2019

The Lizard 2017/2019

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About the graphs on pages 2 and 3: These show the VWC over a three year period. The black line shows the daily soil moisture, the shaded areas show the monthly minima (pink) and maxima (blue) from the period of record, and the dashed grey line indicates the period of record monthly mean. These extremes and means are currently derived from very short records; they do nevertheless give some indication of the seasonal variability of the moisture content.

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 field capacity (FC) which is typical moisture content in late autumn and early spring. SMI will generally be lower than this in the summer and higher in the winter.

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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