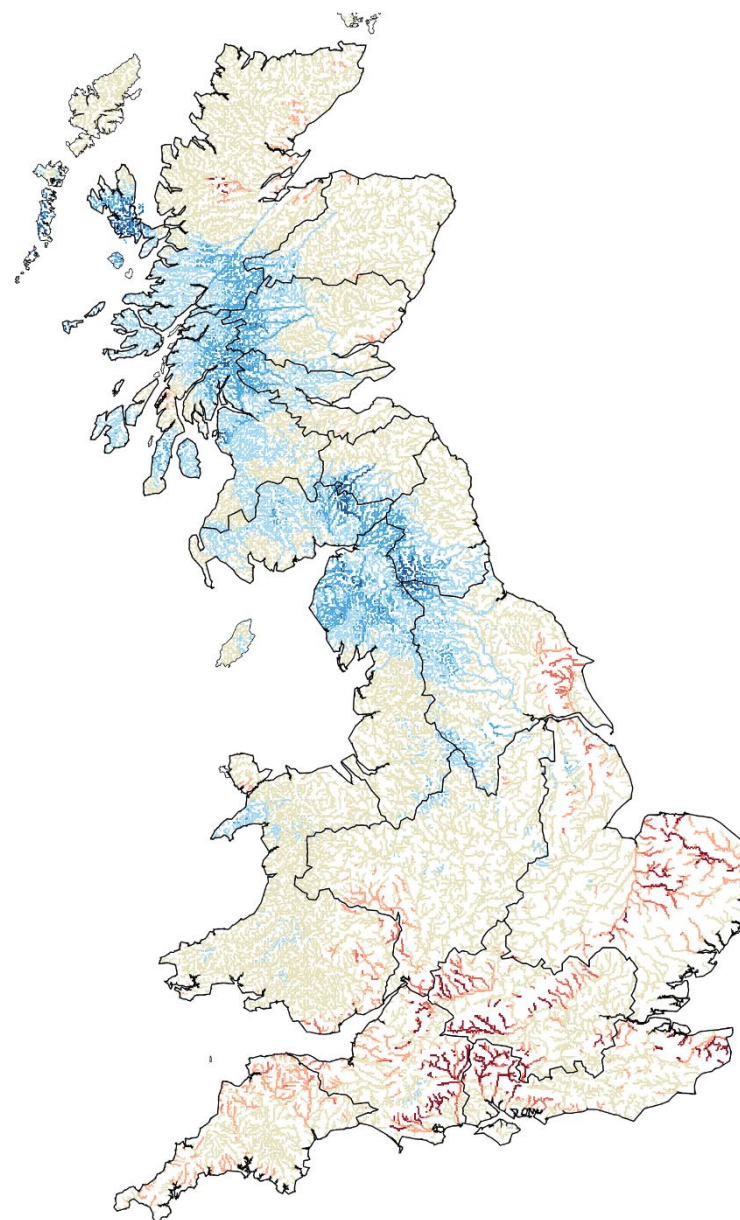
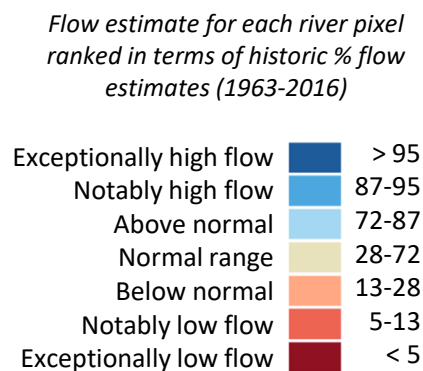


This map shows the simulated monthly mean flow across Great Britain for last month, ranked in terms of 54 years of historical flow estimates (1963 – 2016).

These flows are produced by the 1km resolution Grid-to-Grid (G2G) hydrological model, which is run up to the end of each calendar month using observed rainfall and MORECS potential evaporation as input.

Note that the G2G model provides estimates of natural flows.



Current Daily Simulated Subsurface Water Storage Conditions

Based on subsurface water storage estimated for 31st October 2022

Issue date: 03.11.2022

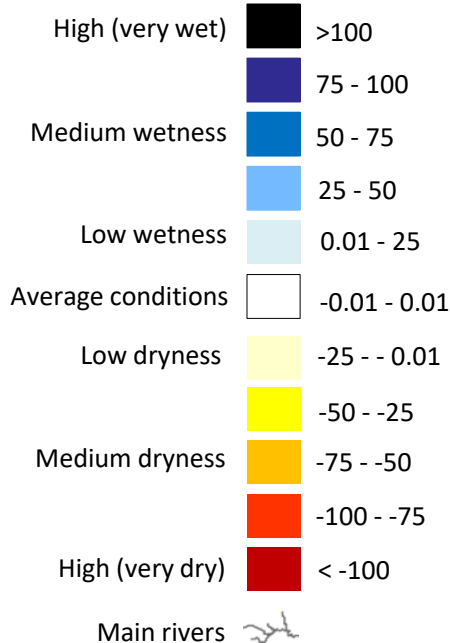
These maps are based on Grid-to-Grid (G2G) hydrological model simulated subsurface water storage, expressed as an anomaly from the historical monthly mean. To highlight areas that are particularly wet or dry, the storage anomaly is presented here using a colour scale highlighting water storage relative to historical extremes. The maps below show the “relative wetness” which combines maps previously shown separately as the “relative wetness” and “relative dryness”.

These maps do not provide a forecast and are not maps of soil moisture. Instead they indicate areas which are particularly wet or dry. Rainfall in areas with high positive relative wetness could result in flooding in the coming days/weeks. Areas of negative relative wetness provide an indication of locations which are particularly dry, and little or no rain in these areas could potentially lead to (or prolong) a drought.

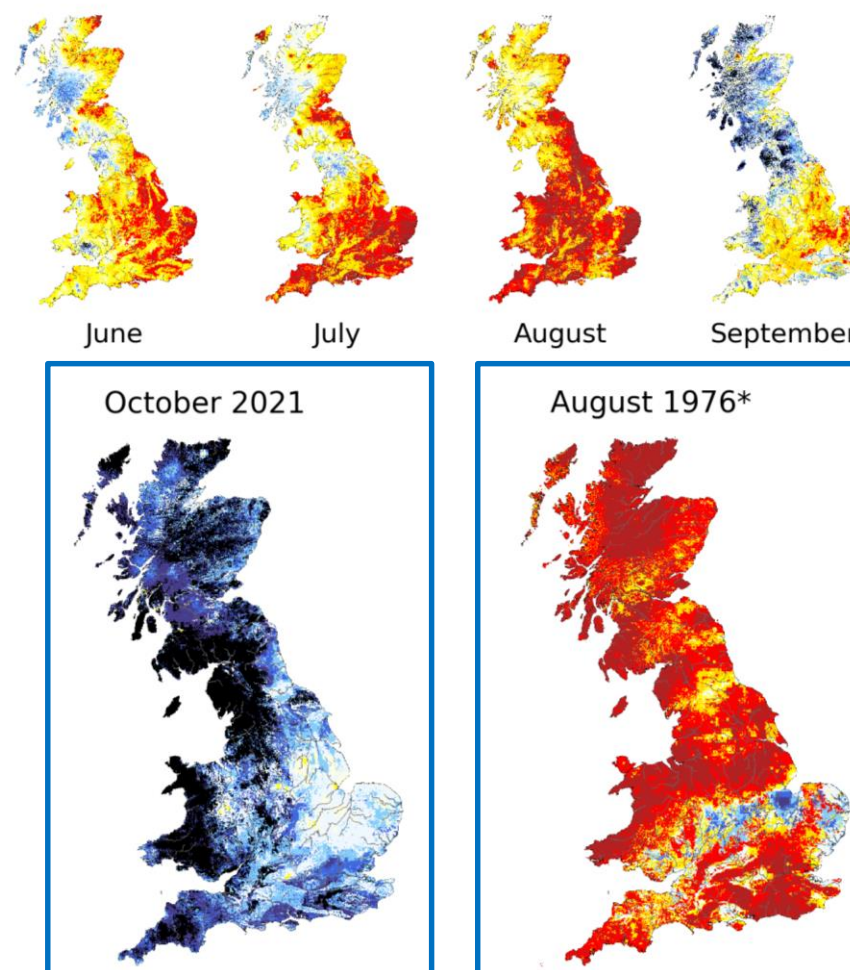
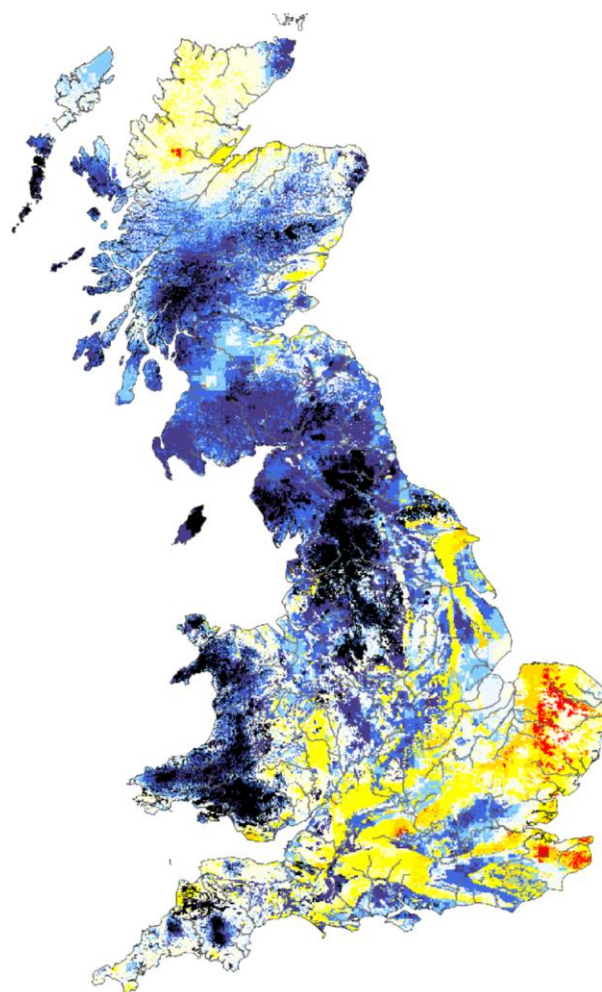
SUMMARY: At the end of October subsurface water levels were higher (wetter) than normal across most of northern England, southern and central Scotland and Wales. Across south east England and north west Scotland subsurface water levels were mostly lower (drier) than normal, with some pockets of higher subsurface water levels.

Relative wetness

Water storage anomaly as a % of maximum (positive wetness) or minimum (negative wetness) storage anomaly (zero indicates average value)



Labels refer to estimated storage on *final day* of named month



*Example month displaying extreme negative wetness

Return Period of Rainfall Required to Overcome Dry Conditions

Period: November 2022 – April 2023

Issue date: 03.11.2022








These maps show the **return period** of the rainfall required to overcome dry conditions simulated using the Grid-to-Grid (G2G) hydrological model. The maps are coloured according to the return period of accumulated rainfall required to overcome the estimated current subsurface water storage deficit over the next few months.

These maps do not provide a drought forecast. Instead they indicate the return period of rainfall required to overcome the dry conditions for the following 6 months based on current conditions.

SUMMARY: During November regions in southern and eastern England would require rainfall with a return period of between 5 and 10 years to overcome the dry conditions. Other regions of the UK will not require particularly unusual rainfall (<5 year return periods) to return to average conditions for the time of year.

All regions of Great Britain will not require particularly unusual rainfall (<5 year return periods) to return to average conditions by the end of March.



Rainfall amount / Probability		Return period (years)	
Low (this rain is likely to occur)	> 20%		< 5
	< 20%		5 - 10
	< 10%		10 - 25
	< 4%		25 - 50
High (less likely)	< 2%		50 - 100
	< 1%		100 - 200
Extreme (unlikely but still possible)	< 0.5%		> 200

SCOTLAND

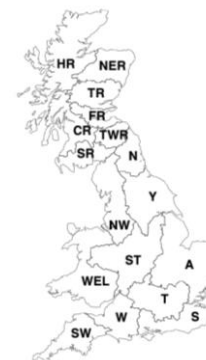
HR Highlands Region
NER North East Region
TR Tay Region
FR Forth Region
CR Clyde Region
TWR Tweed Region
SR Solway Region

ENGLAND

N Northumbria
NW North West
Y Yorkshire
ST Severn Trent
A Anglian
T Thames
S Southern
W Wessex
SW South West

WALES

WEL Welsh



NORTHERN IRELAND

This method cannot currently be used in Northern Ireland

Estimate of Additional Rainfall Required to Overcome Dry Conditions

Based on subsurface water storage estimated for 31st October 2022

Issue date: 03.11.2022

These maps show the Grid-to-Grid (G2G) hydrological model simulated subsurface water storage, expressed as an anomaly from the historical monthly mean (1981-2010), presented on a 1km grid and as regional means.

Subsurface storage deficits, i.e. where the subsurface water storage anomaly is less than zero, are highlighted by the red/pink colours.

The **subsurface storage deficit (mm)** can be interpreted as an estimate of additional rainfall that would be required in future months to overcome dry conditions (i.e. rainfall in addition to what is expected on average). Regional mean values of additional rainfall required are provided in the table below.

Regional estimate of additional
rainfall required (mm)

SCOTLAND

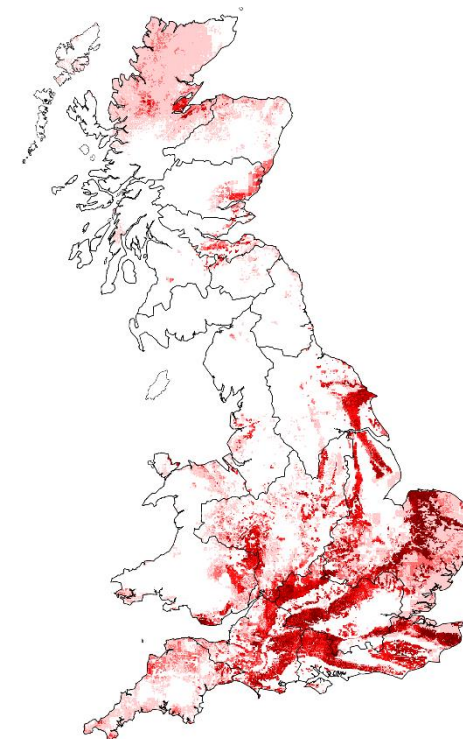
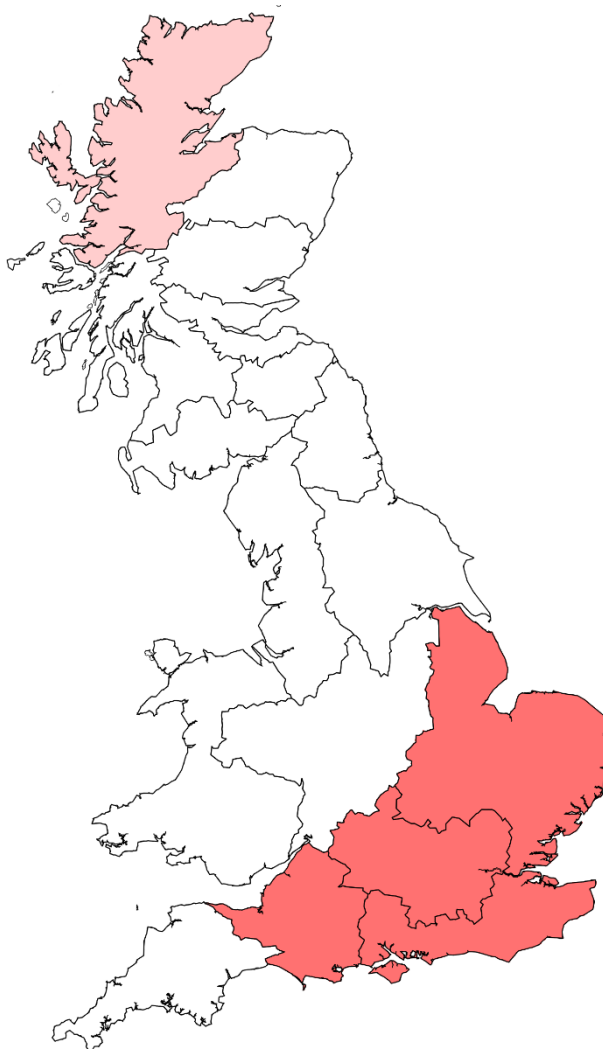
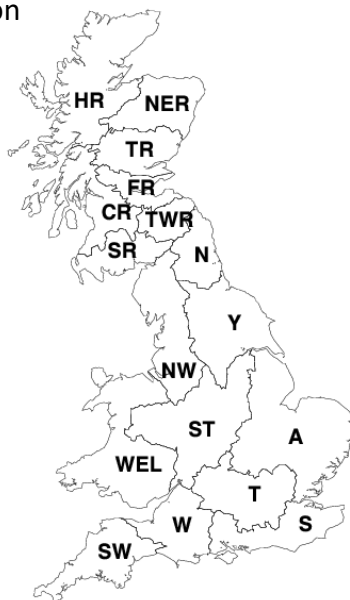
4	HR	Highlands Region
0	NER	North East Region
0	TR	Tay Region
2	FR	Forth Region
0	CR	Clyde Region
4	TWR	Tweed Region
0	SR	Solway Region

ENGLAND

0	N	Northumbria
0	NW	North West
0	Y	Yorkshire
0	ST	Severn Trent
31	A	Anglian
32	T	Thames
27	W	Wessex
36	S	Southern
0	SW	South West

WALES

0	WEL	Welsh
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Water storage deficit
(anomaly, mm)

