Monthly water situation report: Lincolnshire and Northamptonshire Area

1 Summary - August 2025

After an average July August saw a return to dry weather with just an area of 17mm, just 27% of long-term average (LTA). Soil moisture deficits (SMDs) remained high in Lincolnshire and Northamptonshire (LNA). River flows and groundwater levels continued their seasonal decline. All reservoirs are below their normal operating curves.

1.1 Rainfall

August was a dry month across Lincs and Northants with most of the rain falling in the last 5 days of the month. The driest part was the Steeping, Great Eau and Long Eau with 14mm, 23% of LTA and the wettest was the South Forty Foot and Hobhole with19mm, 31% of LTA. The dry August now makes it the third driest spring and summer period, March to August, since records began in 1871.

1.2 Soil moisture deficit and recharge

In response to the dry weather SMDs stayed high throughout LNA. The SMD on the 2 September was 131mm compared to LTA of 88mm for the end of August. In all 6 of the hydrological areas the SMD was more than 26mm of the LTA. This means that without above average rainfall a late start to the recharge period is expected.

1.3 River flows

In response to the low rainfall and continued decline in groundwater levels, river flows fell across LNA. Out of 12 sites reported on, 4 are classified as normal, 1 below normal, 5 notably low and 2 exceptionally low.

1.4 Groundwater levels

Groundwater continued its seasonal decline during August. The Lincolnshire chalk sites are now classified as either below normal or normal. In the limestone the southern sites are

classified as normal with the more northern sites being notably low, the sites in the middle are classified as below normal.

1.5 Reservoir stocks

Reservoir levels fell during August and all are below their normal operating curves.

1.6 Environmental impact

The Trent-Witham-Ancholme transfer scheme operated throughout the majority of the month and the Slea Augmentation scheme was also in operation throughout August. The Gwash-Glen transfer scheme remained off. During August there were 28 Hands-Off-Flows active across the area, with 9 resume notices issued after precipitation towards the end of the month. There were no flood alerts or warnings issued during August in LNA.

1.7 Forward look

1.7.1 Probabilistic ensemble projections for river flows at key sites

September 2025: Rivers are showing an increased probability of below normal or notably low flows this month.

December 2025: Rivers across the area are showing an increased probability of notably low flows this December. In the groundwater fed rivers in Lincolnshire, over 50% of the ensemble members are projecting notably low or exceptionally low flows.

1.7.2 Probabilistic ensemble projections for groundwater levels in key aquifers

September 2025: Groundwater levels are projected to be normal or below normal in the chalk and below normal or notably low in the limestone at the end of September.

March 2026: There is an increased probability of notably low levels in the limestone this March. In the chalk, over 50% of the ensemble members are projecting notably low or exceptionally low levels.

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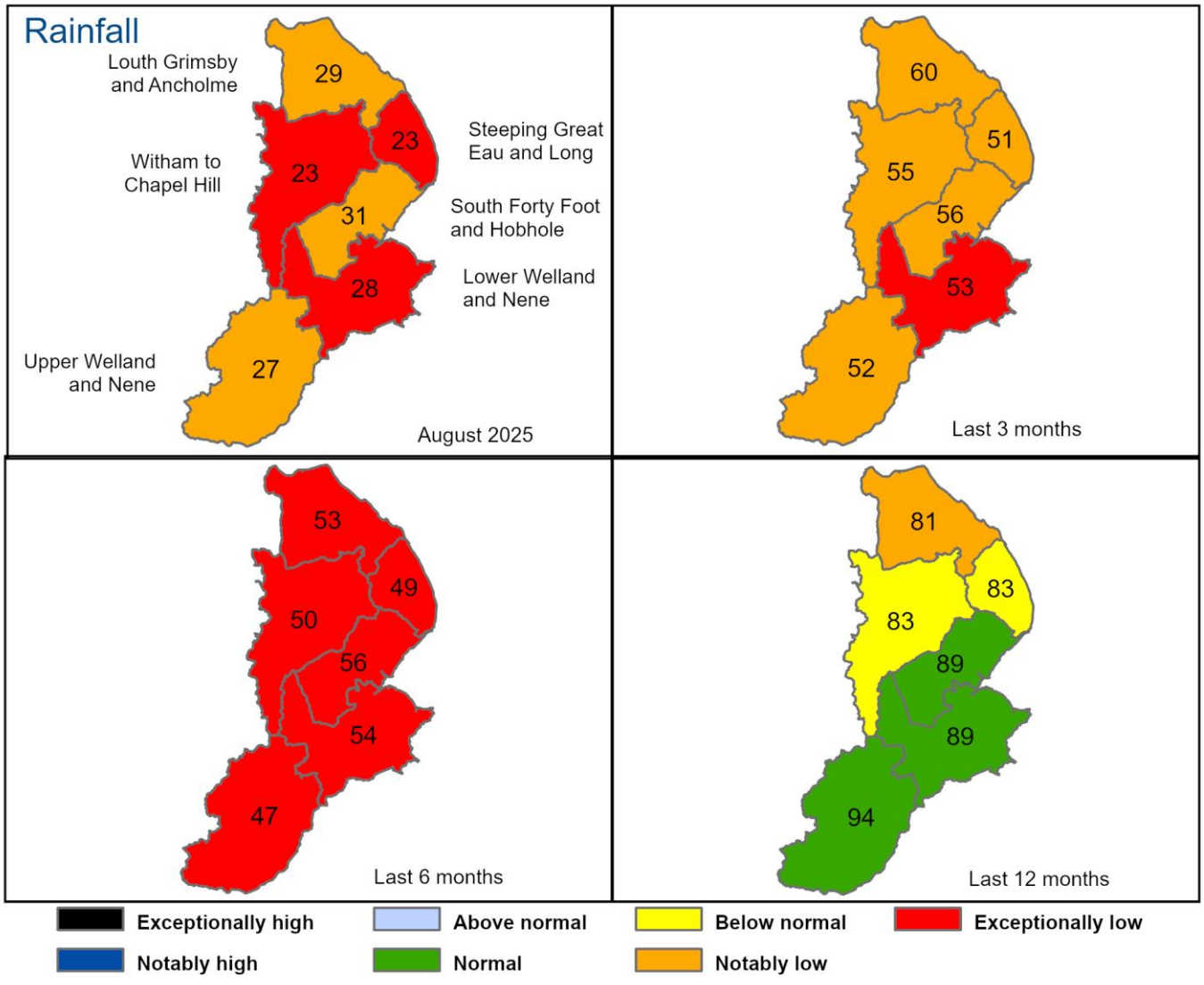
2 Rainfall

2.1 Rainfall map

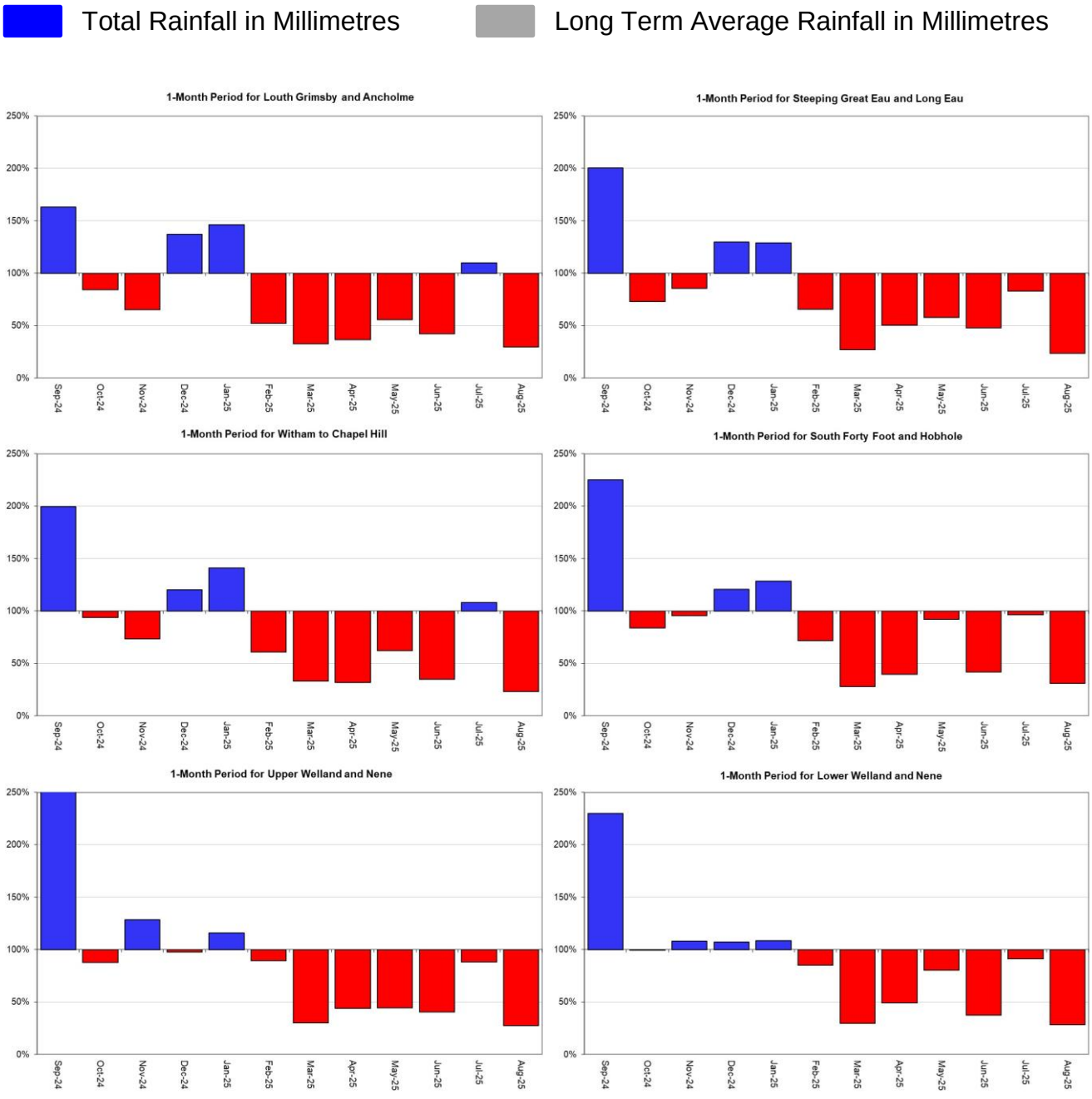
Figure 2.1: Total rainfall for hydrological areas across Lincolnshire and Northamptonshire, expressed as a percentage of long term average rainfall for the current month (up to 31 August 2025), the last 3 months, the last 6 months, and the last 12 months. Category classes are based on an analysis of respective historic totals. Table available in the appendices with detailed information.



HadUK data based on the Met Office 1km gridded rainfall dataset derived from rain gauges (Source: Met Office. Crown copyright, 2025). Provisional data based on Environment Agency 1km gridded rainfall dataset derived from Environment Agency intensity rain gauges. Crown copyright. All rights reserved. Environment Agency, 100024198, 2025.

2.2 Rainfall charts

Figure 2.2: Monthly rainfall totals for the past 12 months as a percentage of the 1991 to 2020 long term average for each region and for England.

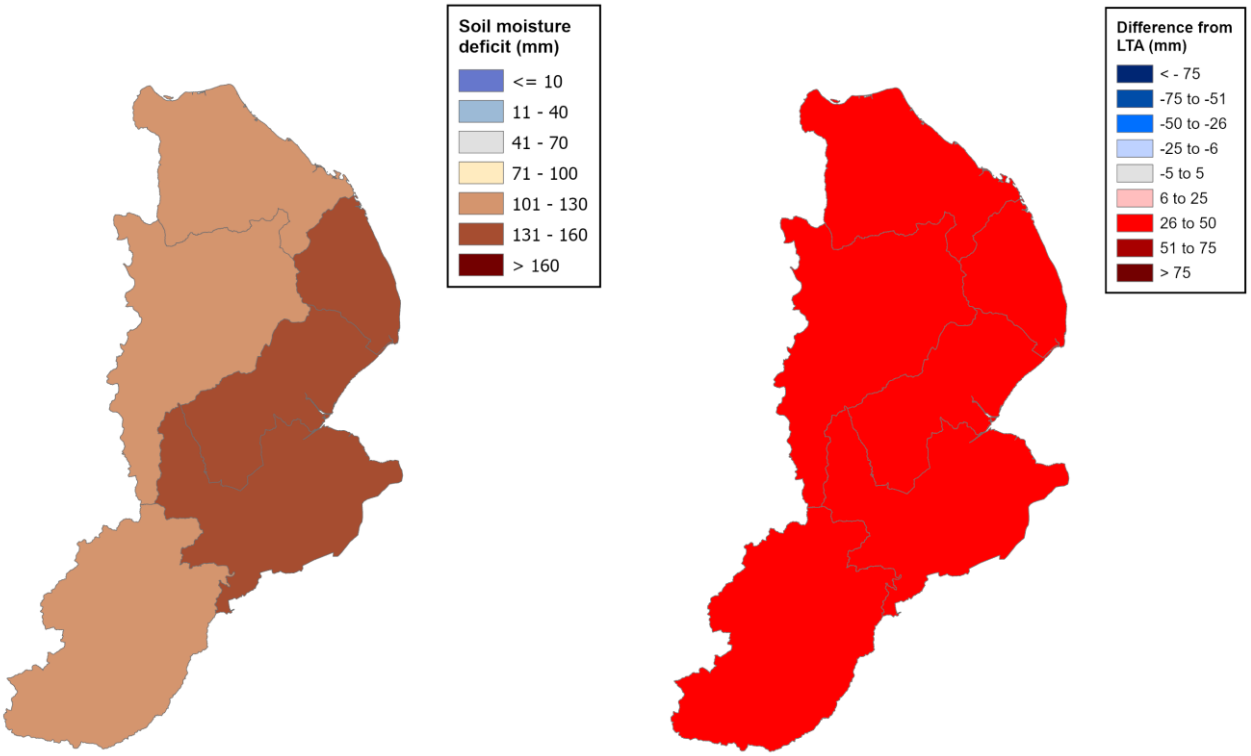


HadUK rainfall data. (Source: Met Office. Crown copyright, 2025).

3 Soil moisture deficit

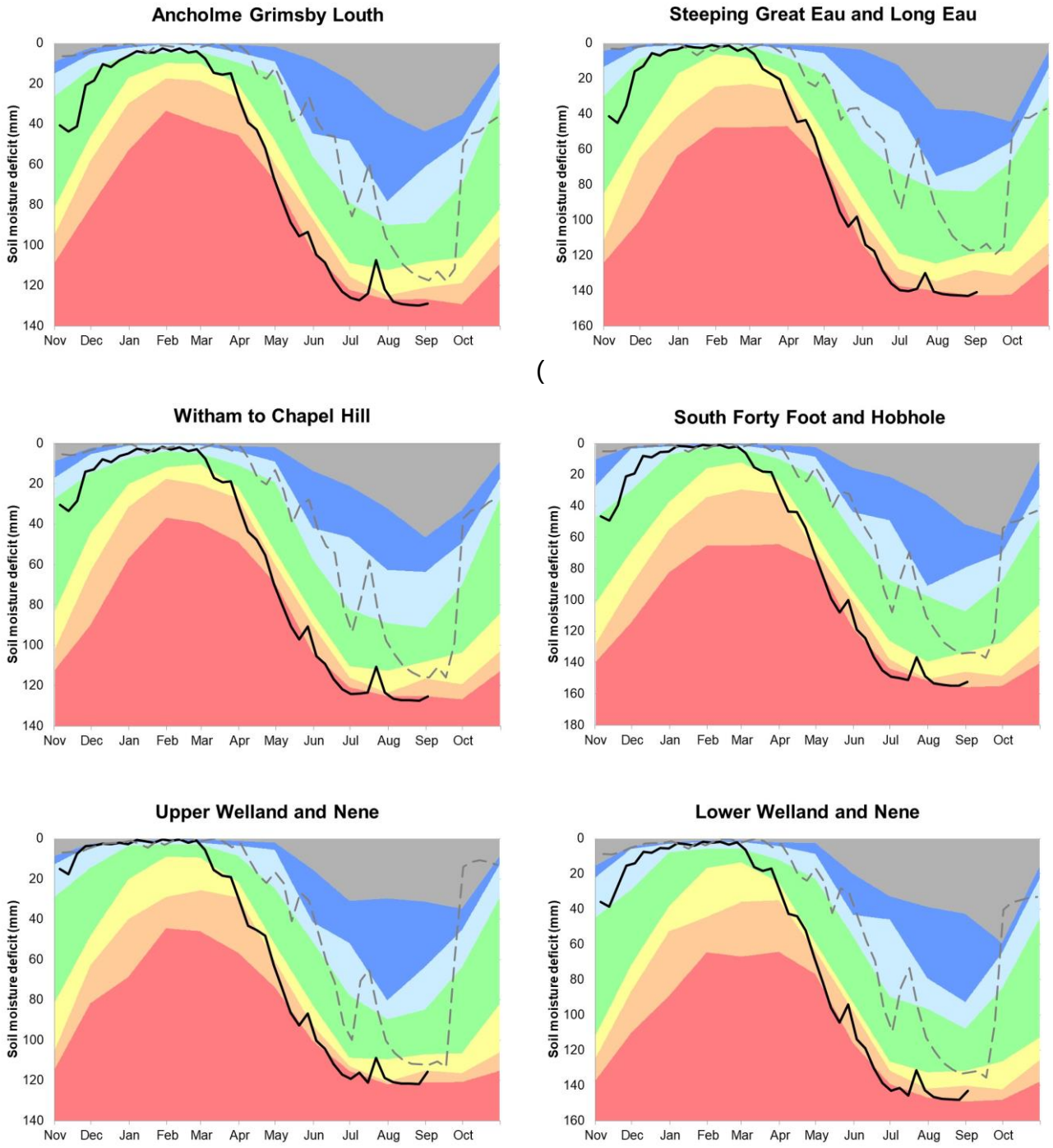
3.1 Soil moisture deficit map

Figure 3.1:Left map shows Soil moisture deficits for weeks ending 31 August 2025. Right map shows the difference (mm) of the actual soil moisture deficit from the 1991 to 2020 long term average soil moisture deficits. MORECS data for real land use.



3.2 Soil moisture deficit charts

Figure 3.2: Latest soil moisture deficit compared to previous year, maximum, minimum, and 1991 to 2020 long term average. Weekly MORECS data for real land use.

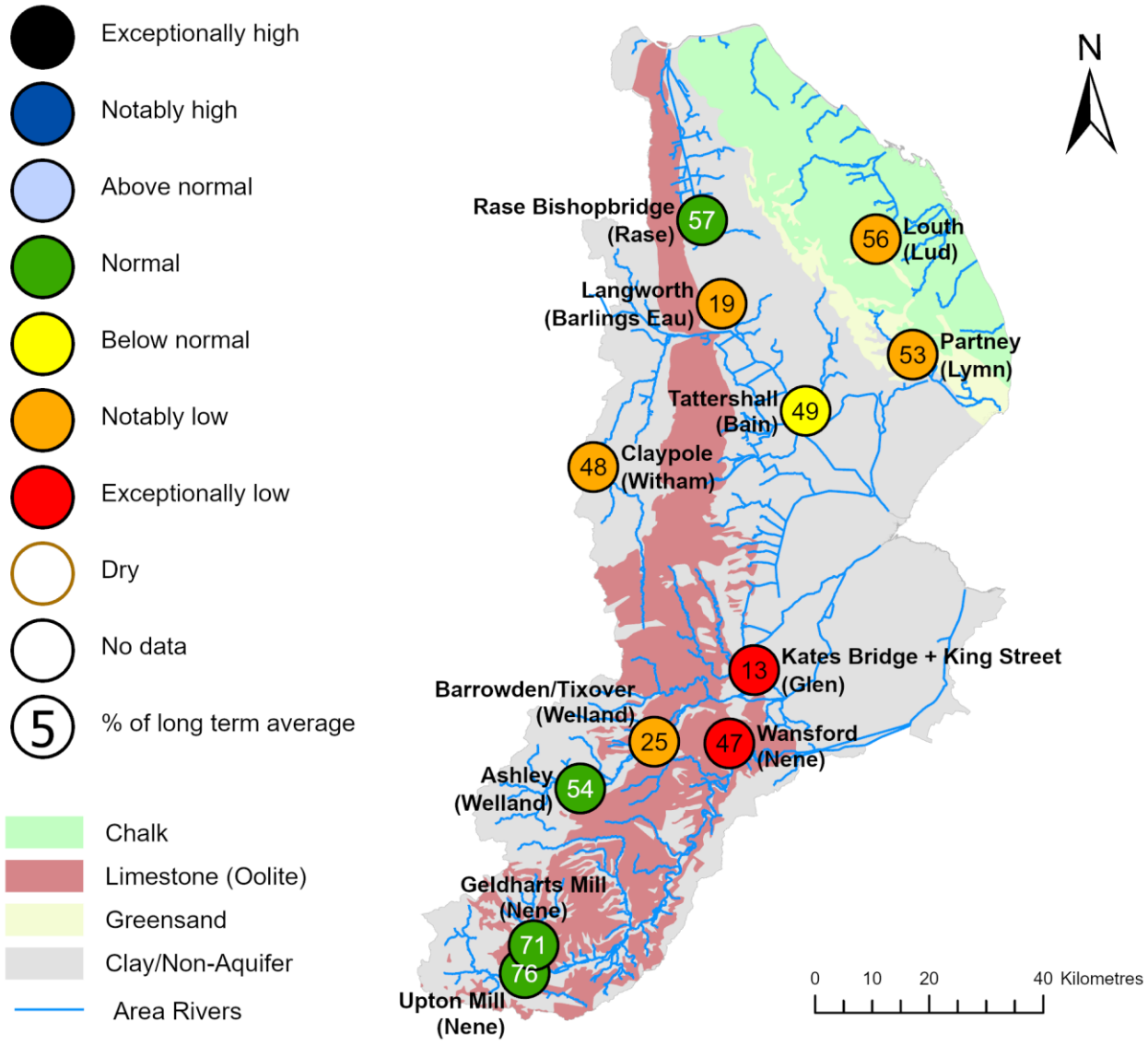


Source: Met Office. Crown copyright, 2025). All rights reserved. Environment Agency, 100024198, 2025

4 River flows

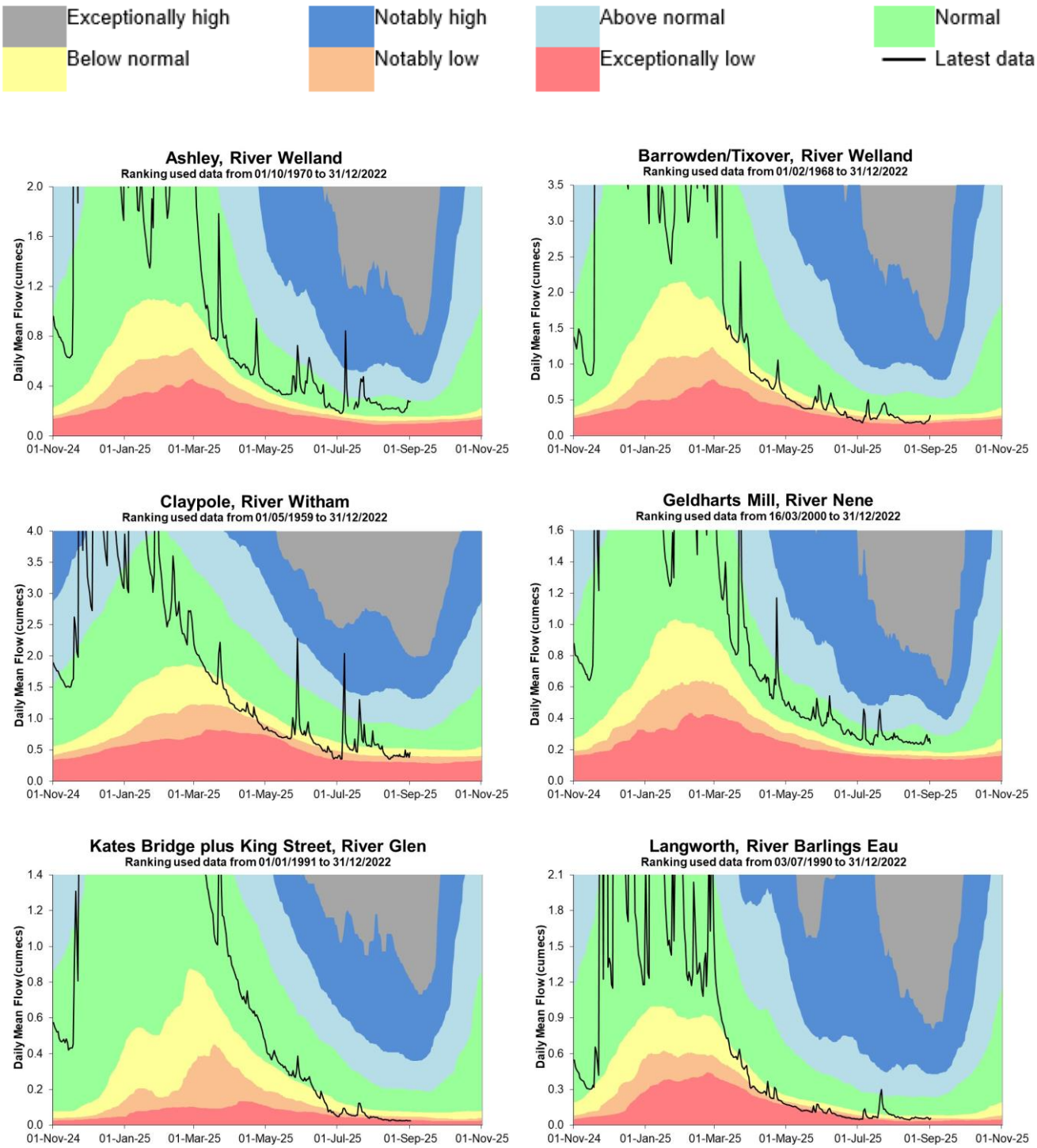
4.1 River flows map

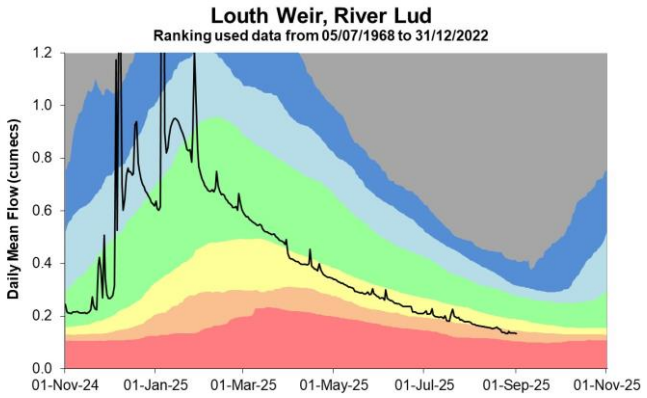
Figure 4.1: Monthly mean river flow for indicator sites for August 2025, expressed as a percentage of the respective long term average and classed relative to an analysis of historic August monthly means Table available in the appendices with detailed information.

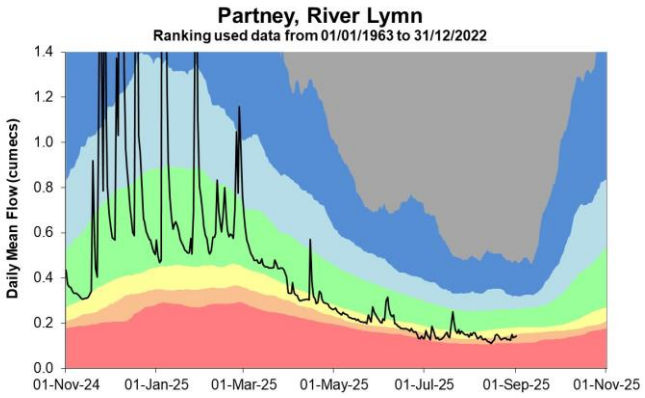


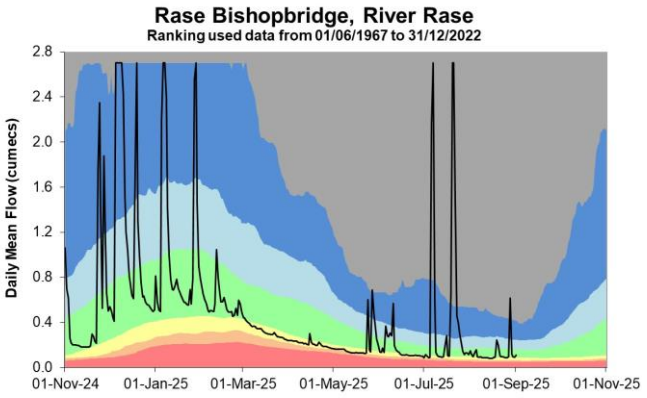
4.2 River flow charts

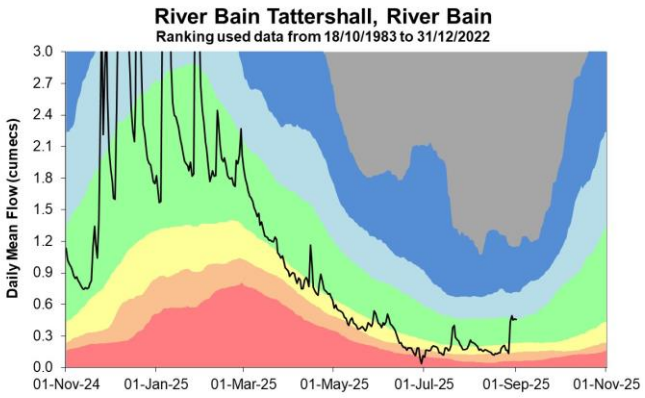
Figure 4.2: Daily mean river flow for index sites over the past year, compared to an analysis of historic daily mean flows, and long term maximum and minimum flows.

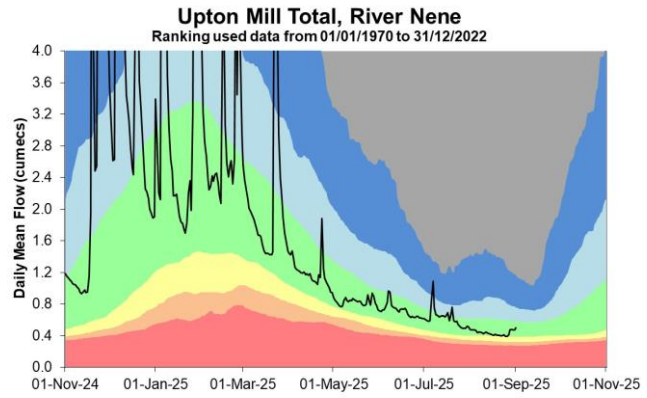


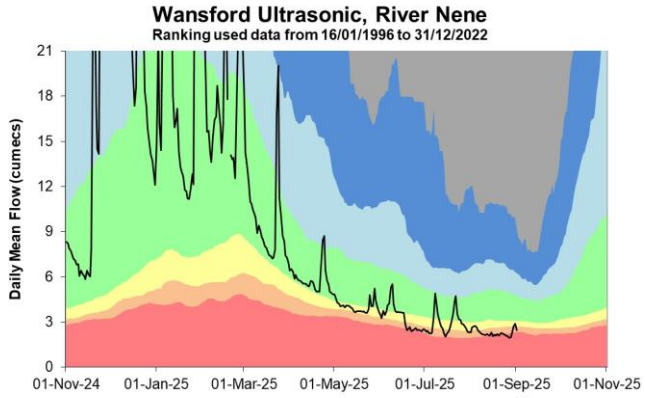










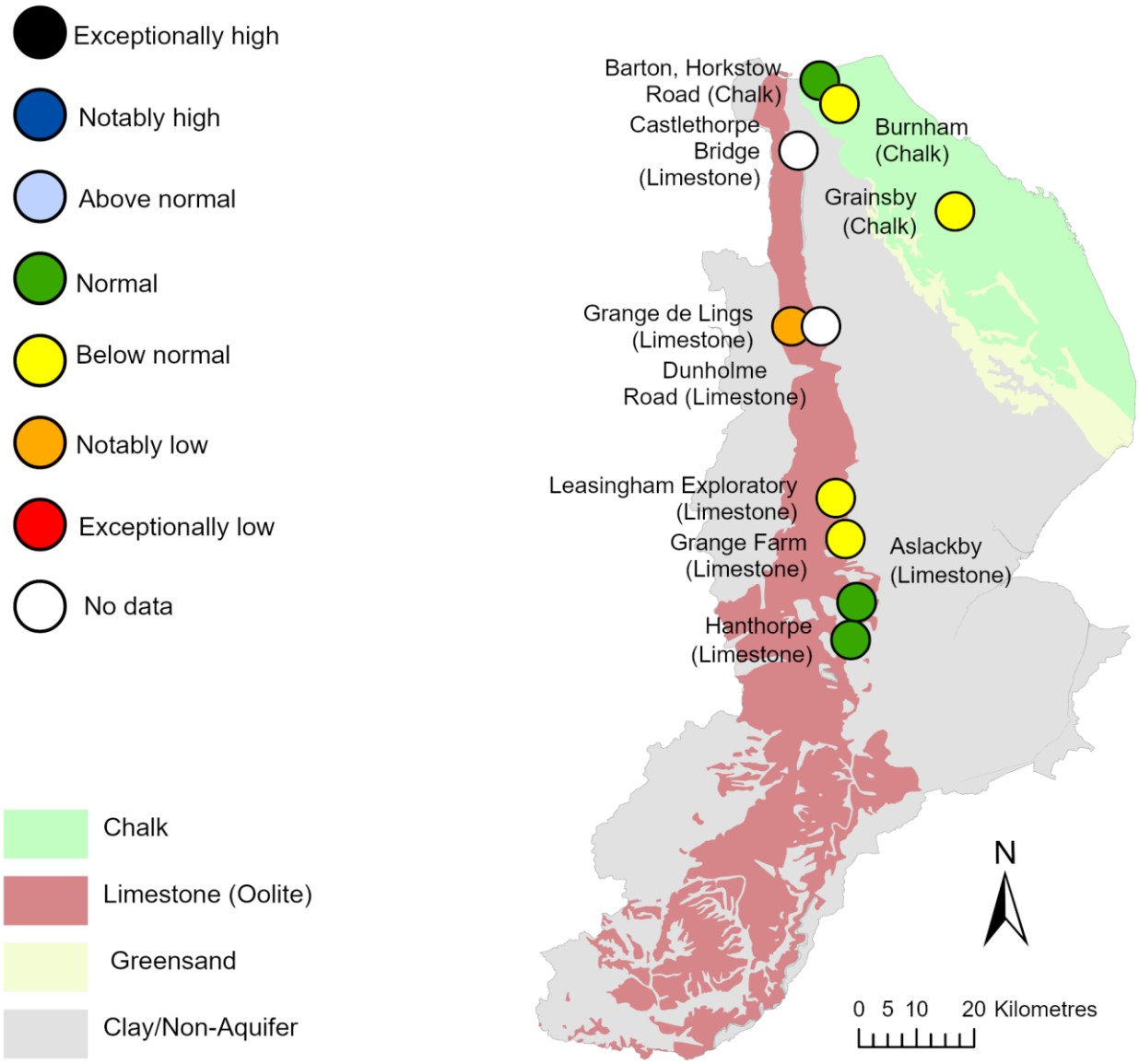


Source: Environment Agency.

5 Groundwater levels

5.1 Groundwater levels map

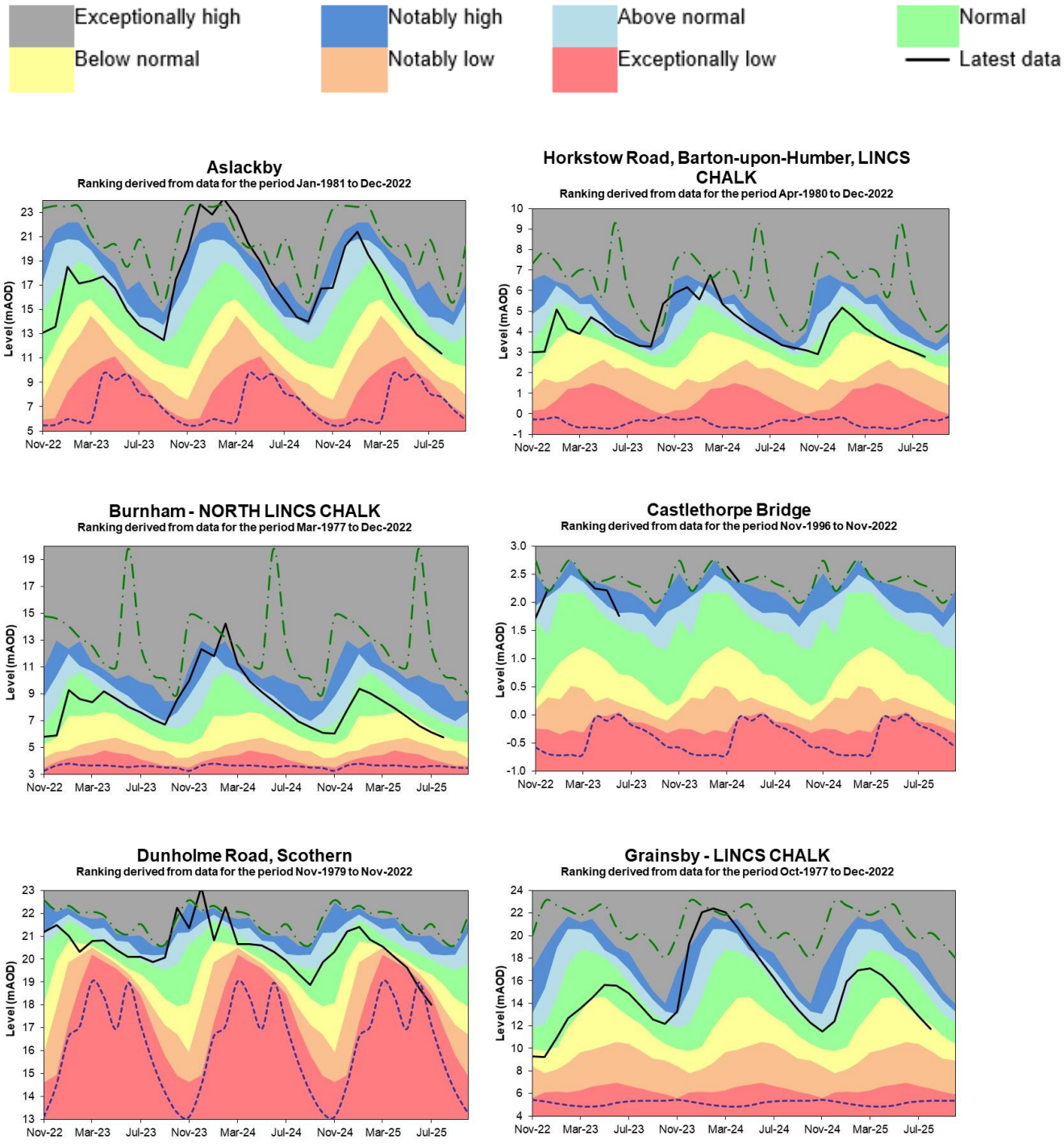
Figure 5.1: Groundwater levels for indicator sites at the end of August 2025, classed relative to an analysis of respective historic August levels. Table available in the appendices with detailed information.

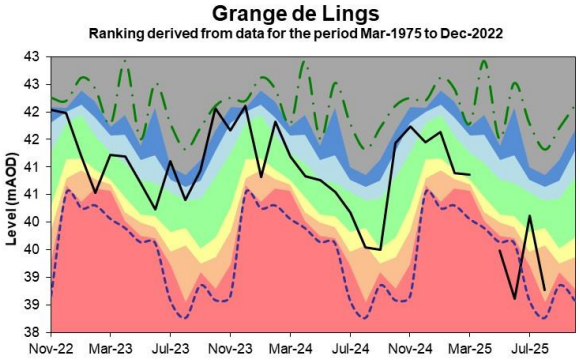


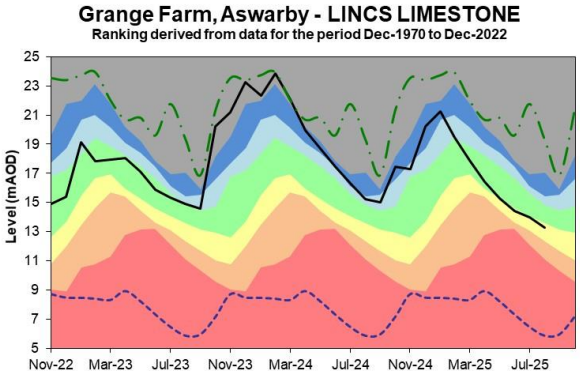
(Source: Environment Agency). Geological map reproduced with kind permission from UK Groundwater Forum, BGS copyright NERC. Crown copyright. All rights reserved. Environment Agency, 100024198, 2025.

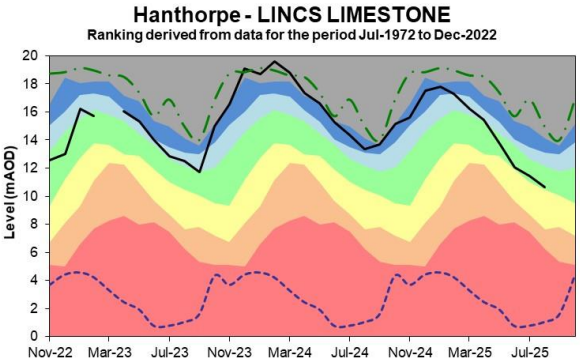
5.2 Groundwater level charts

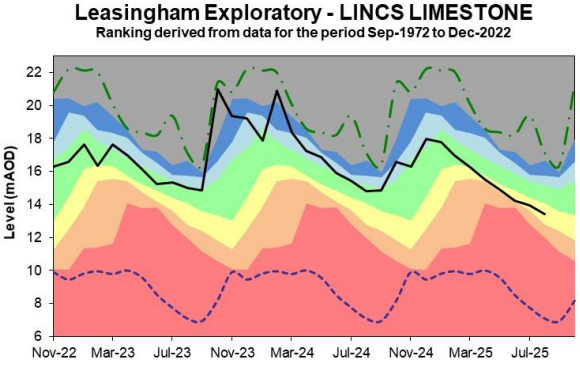
Figure 5.2: End of month groundwater levels at index groundwater level sites for major aquifers. 22 months compared to an analysis of historic end of month levels and long term maximum and minimum levels.







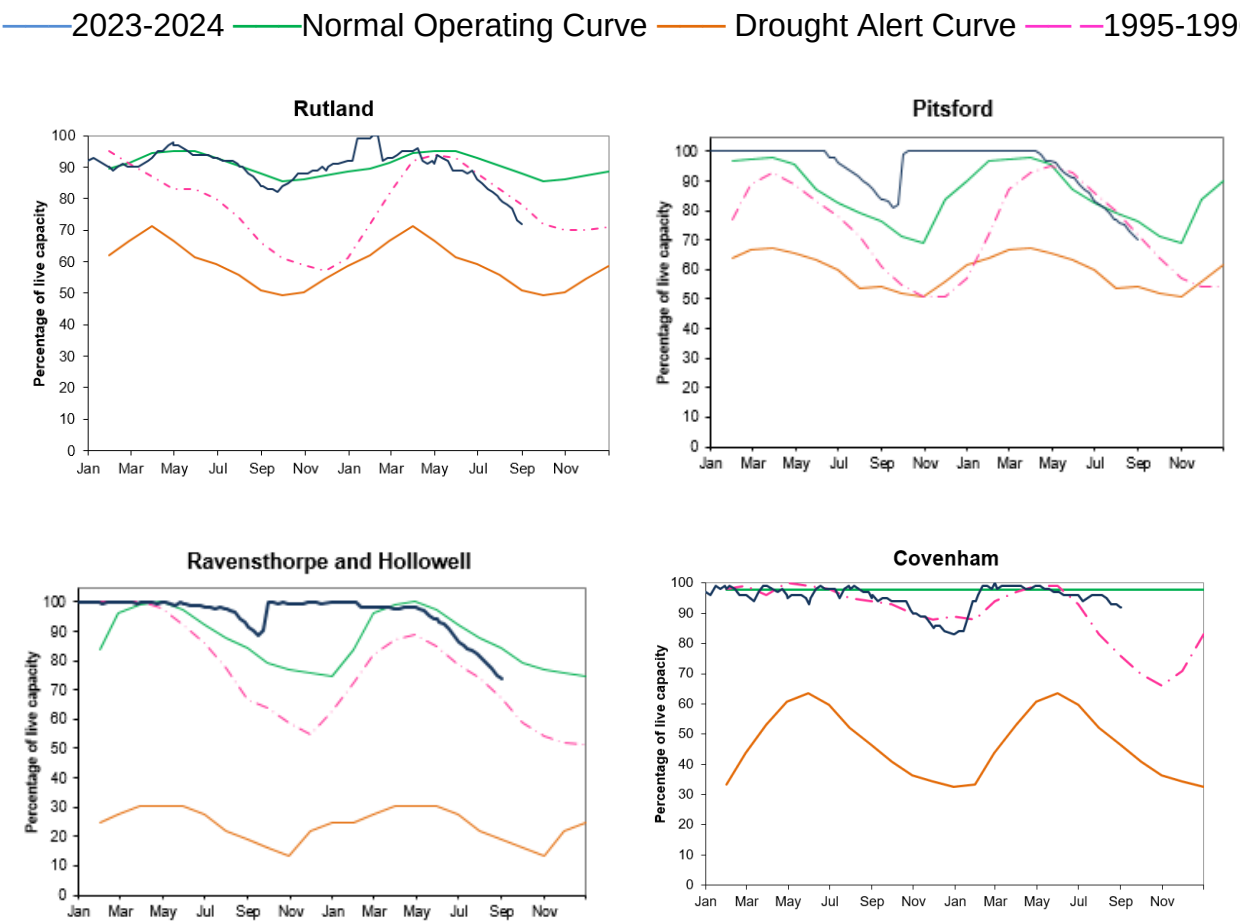




Source: Environment Agency, 2025.

6 Reservoir stocks

Figure 6.1: End of month regional reservoir stocks compared to the normal operating curve,

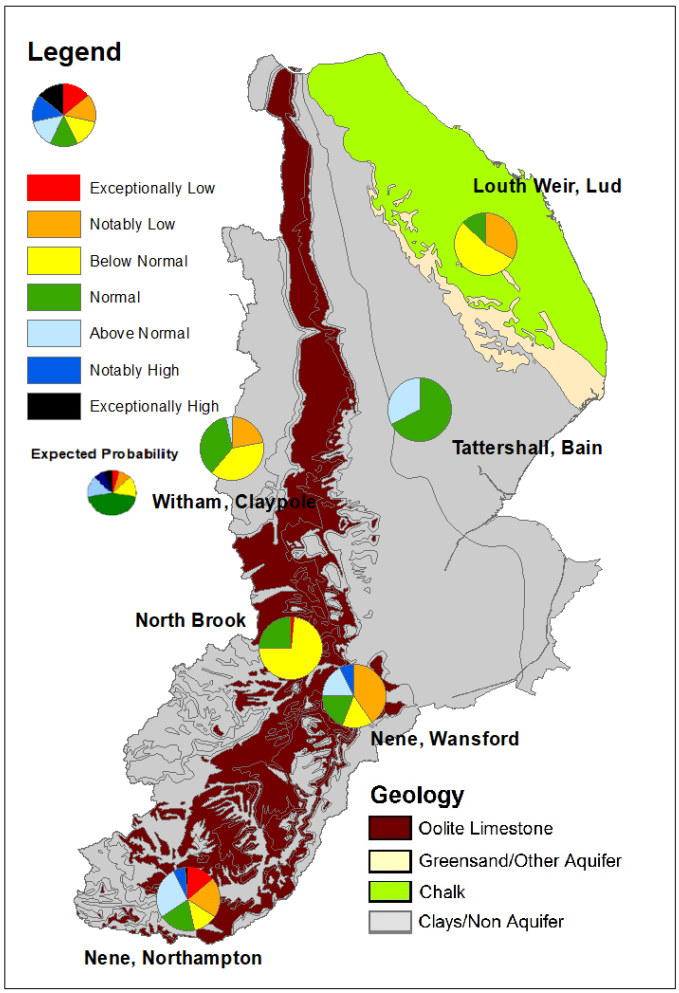


(Source: water companies).

7 Forward Look

7.1 Probabilistic ensemble projection of river flows at key sites in December 2025

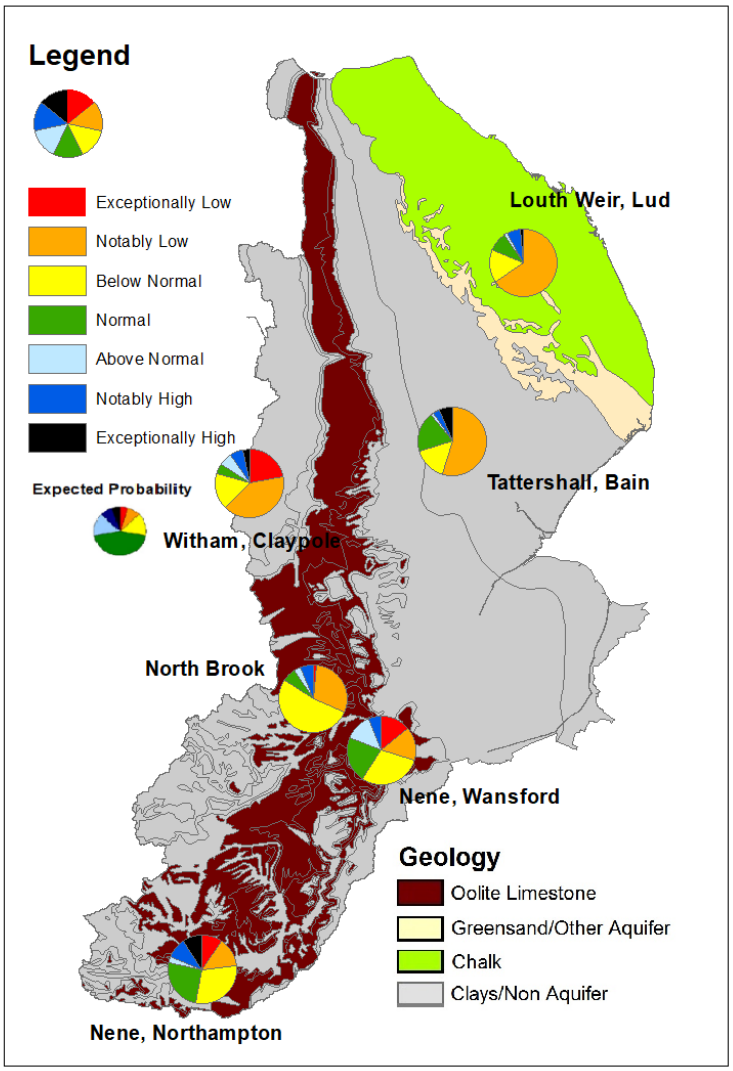
Table available in the appendices with detailed information. Exceptionally high or low levels are those which would typically occur 5% of the time within the historic record. Notably high or low levels are those which would typically occur 8% of the time. Above normal or below normal levels are those which would typically occur 15% of the time. Normal levels are those which would typically occur 44% of the time within the historic record.



Pie charts indicate probability, based on climatology, of the surface water flow at each site being, for example, exceptionally low for the time of year. (Source: Centre for Ecology and Hydrology, Environment Agency) Geological map reproduced with kind permission from UK Groundwater Forum, BGS © NERC. Crown copyright. All rights reserved. Environment Agency, 100026380, 2025.

7.2 Probabilistic ensemble projection of river flows at key sites in December 2025

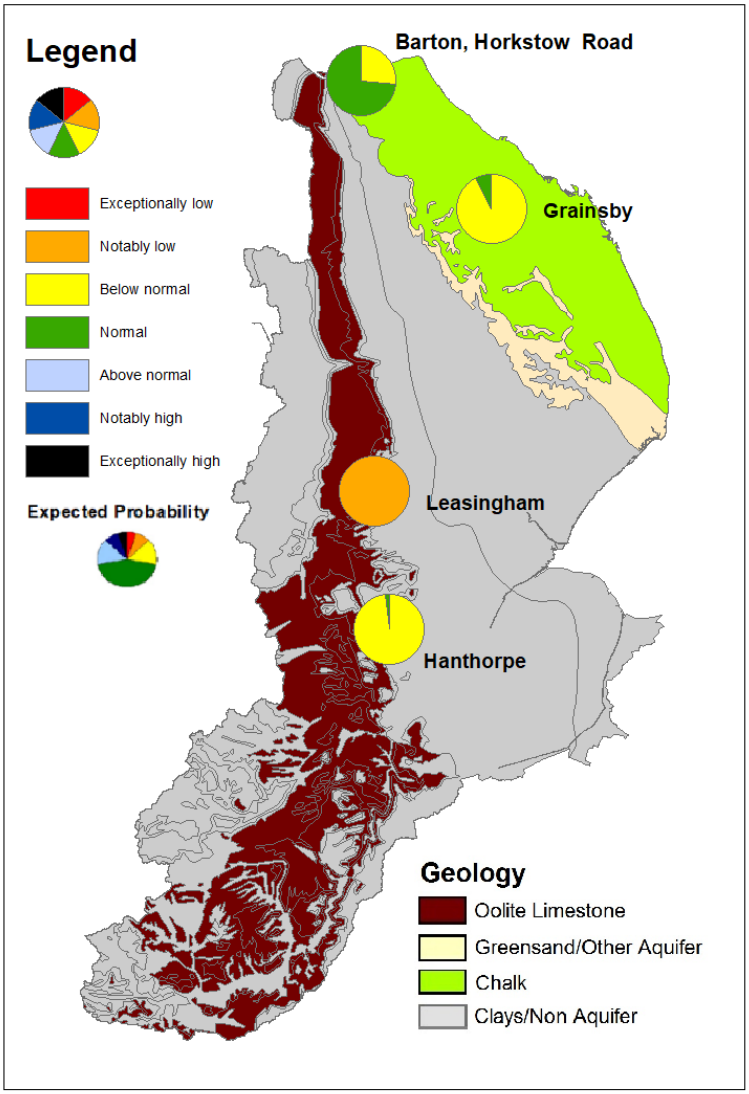
Table available in the appendices with detailed information. Exceptionally high or low levels are those which would typically occur 5% of the time within the historic record. Notably high or low levels are those which would typically occur 8% of the time. Above normal or below normal levels are those which would typically occur 15% of the time. Normal levels are those which would typically occur 44% of the time within the historic record.



Pie charts indicate probability, based on climatology, of the surface water flow at each site being, for example, exceptionally low for the time of year. (Source: Centre for Ecology and Hydrology, Environment Agency) Geological map reproduced with kind permission from UK Groundwater Forum, BGS © NERC. Crown copyright. All rights reserved. Environment Agency, 100026380, 2025

7.3 Probabilistic ensemble projection of groundwater levels at key sites in September 2025

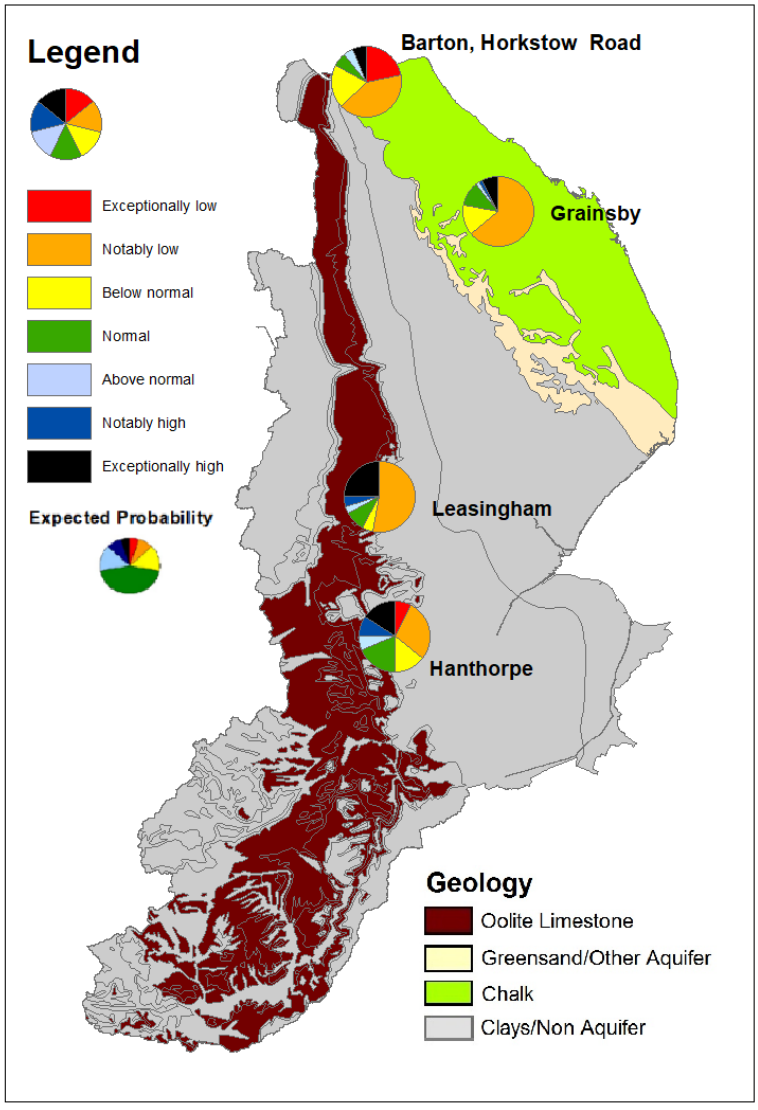
Table available in the appendices with detailed information. Exceptionally high or low levels are those which would typically occur 5% of the time within the historic record. Notably high or low levels are those which would typically occur 8% of the time. Above normal or below normal levels are those which would typically occur 15% of the time. Normal levels are those which would typically occur 44% of the time within the historic record.



Pie charts indicate probability, based on climatology, of the groundwater level at each site being, for example, exceptionally low for the time of year. (Source: Environment Agency)

7.4 Probabilistic ensemble projection of groundwater levels at key sites in March 2026

Table available in the appendices with detailed information. Exceptionally high or low levels are those which would typically occur 5% of the time within the historic record. Notably high or low levels are those which would typically occur 8% of the time. Above normal or below normal levels are those which would typically occur 15% of the time. Normal levels are those which would typically occur 44% of the time within the historic record.



Pie charts indicate probability, based on climatology, of the groundwater level at each site being, for example, exceptionally low for the time of year. (Source: Environment Agency)

8 Glossary

8.1 Terminology

Aquifer

A geological formation able to store and transmit water.

Areal average rainfall

The estimated average depth of rainfall over a defined area. Expressed in depth of water (mm).

Artesian

The condition where the groundwater level is above ground surface but is prevented from rising to this level by an overlying continuous low permeability layer, such as clay.

Artesian borehole

Borehole where the level of groundwater is above the top of the borehole and groundwater flows out of the borehole when unsealed.

Cumecs

Cubic metres per second (m^{3s-1}).

Effective rainfall

The rainfall available to percolate into the soil or produce river flow. Expressed in depth of water (mm).

Flood alert and flood warning

Three levels of warnings may be issued by the Environment Agency. Flood alerts indicate flooding is possible. Flood warnings indicate flooding is expected. Severe flood warnings indicate severe flooding.

Groundwater

The water found in an aquifer.

Long term average (LTA)

The arithmetic mean calculated from the historic record, usually based on the period 1991 to 2020. However, the period used may vary by parameter being reported on (see figure captions for details).

mAOD

Metres above ordnance datum (mean sea level at Newlyn Cornwall).

MORECS

Met Office Rainfall and Evaporation Calculation System. Met Office service providing real time calculation of evapotranspiration, soil moisture deficit and effective rainfall on a 40 by 40 km grid.

Naturalised flow

River flow with the impacts of artificial influences removed. Artificial influences may include abstractions, discharges, transfers, augmentation and impoundments.

NCIC

National Climate Information Centre. NCIC area monthly rainfall totals are derived using the Met Office 5 km gridded dataset, which uses rain gauge observations.

Recharge

The process of increasing the water stored in the saturated zone of an aquifer. Expressed in depth of water (mm).

Reservoir gross capacity

The total capacity of a reservoir.

Reservoir live capacity

The capacity of the reservoir that is normally usable for storage to meet established reservoir operating requirements. This excludes any capacity not available for use (for example, storage held back for emergency services, operating agreements or physical restrictions). May also be referred to as ‘net’ or ‘deployable’ capacity.

Soil moisture deficit (SMD)

The difference between the amount of water actually in the soil and the amount of water the soil can hold. Expressed in depth of water (mm).

8.2 Categories

Exceptionally high

Value likely to fall within this band 5% of the time.

Notably high

Value likely to fall within this band 8% of the time.

Above normal

Value likely to fall within this band 15% of the time.

Normal

Value likely to fall within this band 44% of the time.

Below normal

Value likely to fall within this band 15% of the time.

Notably low

Value likely to fall within this band 8% of the time.

Exceptionally low

Value likely to fall within this band 5% of the time.

9 Appendices

9.1 Rainfall table

Hydrological area	Aug 2025 rainfall % of long term average 1991 to 2020	Aug 2025 band	Jun 2025 to August cumulative band	Mar 2025 to August cumulative band	Sep 2024 to August cumulative band
Louth Grimsby And Ancholme	29	Notably Low	Notably low	Exceptionally low	Notably low
Lower Welland And Nene	28	Exceptionally Low	Exceptionally low	Exceptionally low	Normal
South Forty Foot And Hobhole	31	Notably Low	Notably low	Exceptionally low	Normal
Steeping Great Eau And Long Eau	23	Exceptionally Low	Notably low	Exceptionally low	Below normal
Upper Welland And Nene	27	Notably Low	Notably low	Exceptionally low	Normal
Witham To Chapel Hill	23	Exceptionally Low	Notably low	Exceptionally low	Below normal

9.2 River flows table

Site name	River	Catchment	Aug 2025 band	Jul 2025 band
Ashley	Welland Mkt.harb-rockinghm	Welland Rockingham	Normal	Normal
Barrowden/tixover	Welland (rockingham To Stamford)	Welland Stamford	Notably low	Below normal
Claypole	Upper Witham	Witham Bargate Upper	Notably low	Normal
Geldharts Mill	Nene (brampton Branch)	Nene Brampton Bridge	Normal	Normal
Kates Bridge Plus King Street	Glen (an)	Welland and Glen	Exceptionally low	Notably low
Langworth	Barlings Eau	Barlings Eau	Notably low	Below normal
Louth Weir	Lud	Louth Canal	Notably low	Below normal
Partney	Lymn & Steeping	Lymn Steeping	Notably low	Below normal
Rase Bishopbridge	Ancholme	Ancholme	Normal	Notably high
River Bain Tattershall	Bain	Bain	Below normal	Below normal

Upton Mill Total	Nene (kislingbury Branch)	Nene Kislingbry Bridge	Normal	Normal
Wansford Combined	Nene (wollaston To Wansford)	Nene Wansford	Exceptionally low	Below normal

9.3 Groundwater table

Site name	Aquifer	End of Aug 2025 band	End of Jul 2025 band
Aslackby	Limestone (cornbrash Formation)	Normal	Normal
Barton-upon-humber	Grimsby Ancholme Louth Chalk	Normal	Normal
Burnham	Grimsby Ancholme Louth Chalk	Below normal	Below normal
Castlethorpe Bridge	Grimsby Ancholme Louth Limestone		Above normal
Dunholme Road, Scothern	Grimsby Ancholme Louth Limestone		Exceptionally low
Grainsby	Grimsby Ancholme Louth Chalk	Below normal	Normal
Grange De Lings	Grimsby Ancholme Louth Limestone	Notably low	Normal
Grange Farm, Aswarby	Limestone (mudstone - Peterborough Member)	Below normal	Below normal

Hanthorpe	Limestone (cornbrash Formation)	Normal	Normal
Leasingham Exploratory	Limestone (rutland Formation)	Below normal	Below normal

9.4 Ensemble projections tables

9.4.1 Probabilistic ensemble projection of river flows at key sites in September 2025

Percentage of pie chart for each band

Site	Nene Nton	Nene Wansford	North Brook	Claypole	Louth	Tatershall
Exceptionally low	14.1	0.0	1.6	0.0	0.0	0.0
Notably low	20.3	40.6	0.0	21.9	32.8	0.0
Below normal	12.5	15.6	73.4	39.1	54.7	0.0
Normal	18.8	18.8	25.0	35.9	12.5	67.2
Above normal	26.6	17.2	0.0	3.1	0.0	32.8
Notably high	6.3	7.8	0.0	0.0	0.0	0.0
Exceptionally high	1.6	0.0	0.0	0.0	0.0	0.0

9.4.2 Probabilistic ensemble projection of river flows at key sites in December 2025

Percentage of pie chart for each band

Site	Nene Nton	Nene Wansford	North Brook	Claypole	Louth	Tattershall
Exceptionally low	9.4	14.1	1.6	21.9	0.0	0.0
Notably low	14.1	15.6	29.7	40.6	65.6	54.7
Below normal	29.7	29.7	53.1	17.2	15.6	15.6
Normal	25.0	21.9	6.3	4.7	9.4	18.8
Above normal	3.1	12.5	3.1	6.3	1.6	1.6
Notably high	9.4	6.3	6.3	6.3	6.3	3.1
Exceptionally high	9.4	0.0	0.0	3.1	1.6	6.3

9.4.3 Probabilistic ensemble projection of groundwater levels at key sites in September 2025

Percentage of pie chart for each band

Site	Grainsby	Hanthorpe	Horkstow	Leasingham
Exceptionally low	0.0	0.0	0.0	0.0
Notably low	0.0	0.0	0.0	100.0
Below normal	92.2	98.4	26.6	0.0
Normal	7.8	1.6	73.4	0.0
Above normal	0.0	0.0	0.0	0.0
Notably high	0.0	0.0	0.0	0.0
Exceptionally high	0.0	0.0	0.0	0.0

9.4.4 Probabilistic ensemble projection of groundwater levels at key sites in March 2026

Percentage of pie chart for each band

Site	Grainsby	Hanthorpe	Horkstow	Leasingham
Exceptionally low	0.0	7.8	21.9	0.0
Notably low	64.1	28.1	40.6	53.1
Below normal	14.1	14.1	20.3	4.7
Normal	10.9	18.8	6.3	9.4
Above normal	1.6	6.3	4.7	3.1
Notably high	1.6	9.4	0.0	4.7
Exceptionally high	7.8	15.6	6.3	25.0