Monthly water situation report: Lincolnshire and Northamptonshire Area

1 Summary - October 2025

After an average September, October saw a continuation of average rainfall, with an area total of 55 mm (85% of the long-term average (LTA)). Cooler temperatures and average rainfall led to a reduction in the soil moisture deficit (SMD). River flows remained largely normal, though several groundwater-fed catchments recorded below normal or notably low flows. Groundwater levels continued their gradual decline, remaining below the LTA across most sites, and reservoir stocks remained below their normal operating curves but above drought alert levels.

1.1 Rainfall

Across Lincolnshire and Northamptonshire, October recorded an average of 55mm of rainfall, equivalent to 85% of the LTA, placing it within the normal rainfall banding for the month. Rainfall was highest in the north of the area, with 61 mm (96% LTA) recorded in the Grimsby Ancholme and Louth catchment, and 64 mm (95% LTA) in the Steeping, Great Eau and Long Eau catchment. Totals declined southwards, with the Upper Welland and Nene catchments recording the lowest rainfall at 47 mm (68% LTA), although all six hydrological areas remained within the normal classification.

Over longer-term periods, a persistent north-south rainfall gradient remains evident across the area. For the six-month accumulation (May to October 2025), rainfall totals in the Welland and Nene catchments were notably low, while the remaining four hydrological areas were classed as below normal. This represents a marginal improvement compared to September, when the upper Welland and Nene catchments were exceptionally low over the corresponding six-month period.

1.2 Soil moisture deficit and recharge

SMDs continued to decrease across all areas over October, reflecting cooler temperatures and the continuation of more normal rainfall. The average SMD for the area reduced from 122mm at the end of September to 106mm at the end of October.

SMDs remained above the LTA for the time of year across all six hydrological areas. The largest deficits persisted in the central and eastern catchments, where values exceeded 130mm, while the lowest deficits, between 70 and 100mm, were recorded in parts of the north. Compared with LTA, all areas remained drier than expected, with deficits typically 25 to 75mm higher than average.

1.3 River flows

River flows across Lincolnshire and Northamptonshire remained within the normal range at most sites during October 2025. Out of twelve indicator rivers, seven were classed as normal, including the Rase at Bishopbridge, Witham at Claypole, and Welland at Ashley. The Lymn at Partney and Louth at Louth recorded below normal flows, while the Barlings Eau at Langworth, Bain at Tattershall, and Glen at Kates Bridge were notably low. No sites were classified as exceptionally low or high for the time of year.

Monthly mean percentages ranged from 10% to 70% LTA, with the lowest flows observed in the Glen and Barlings Eau, and the highest in the Rase.

1.4 Groundwater levels

Groundwater levels remained stable or declined slightly through October. In the chalk aquifer of north Lincolnshire, Barton (Horkstow Road) remained normal, while Burnham and Grainsby recorded below normal levels.

Across the Lincolnshire Limestone, conditions were generally below normal, with Grange de Lings classed as normal and Dunholme Road now notably low. Leasingham Exploratory, Grange Farm, Hanthorpe, and Aslackby all recorded below normal groundwater levels, with Aslackby declining from normal in September. Castlethorpe Bridge had no data for October.

1.5 Reservoir stocks

Reservoir levels continued to be drawn down below their normal operating curves during October 2025. Rutland Water remains below Level 1, indicating demand exceeding abstraction potential, although all reservoirs remain above drought alert levels.

1.6 Environmental impact

The Trent-Witham-Ancholme transfer scheme was turned off on 22 October. The Gwash-Glen transfer and Slea Augmentation schemes were operational throughout the month. One Hands Off Flow (HOF) was issued in October on the Witham.

1.7 Forward look

1.7.1 Probabilistic ensemble projections for river flows at key sites

December 2025: All flow sites are likely to experience below normal to exceptionally low flows.

March 2026: All flow show an increased likelihood of exceptionally low river flows.

1.7.2 Probabilistic ensemble projections for groundwater levels in key aquifers

March 2026: All sites are showing an increased probability of less than normal levels.

September 2026: All sites are showing a continued increase chance of less than normal levels.

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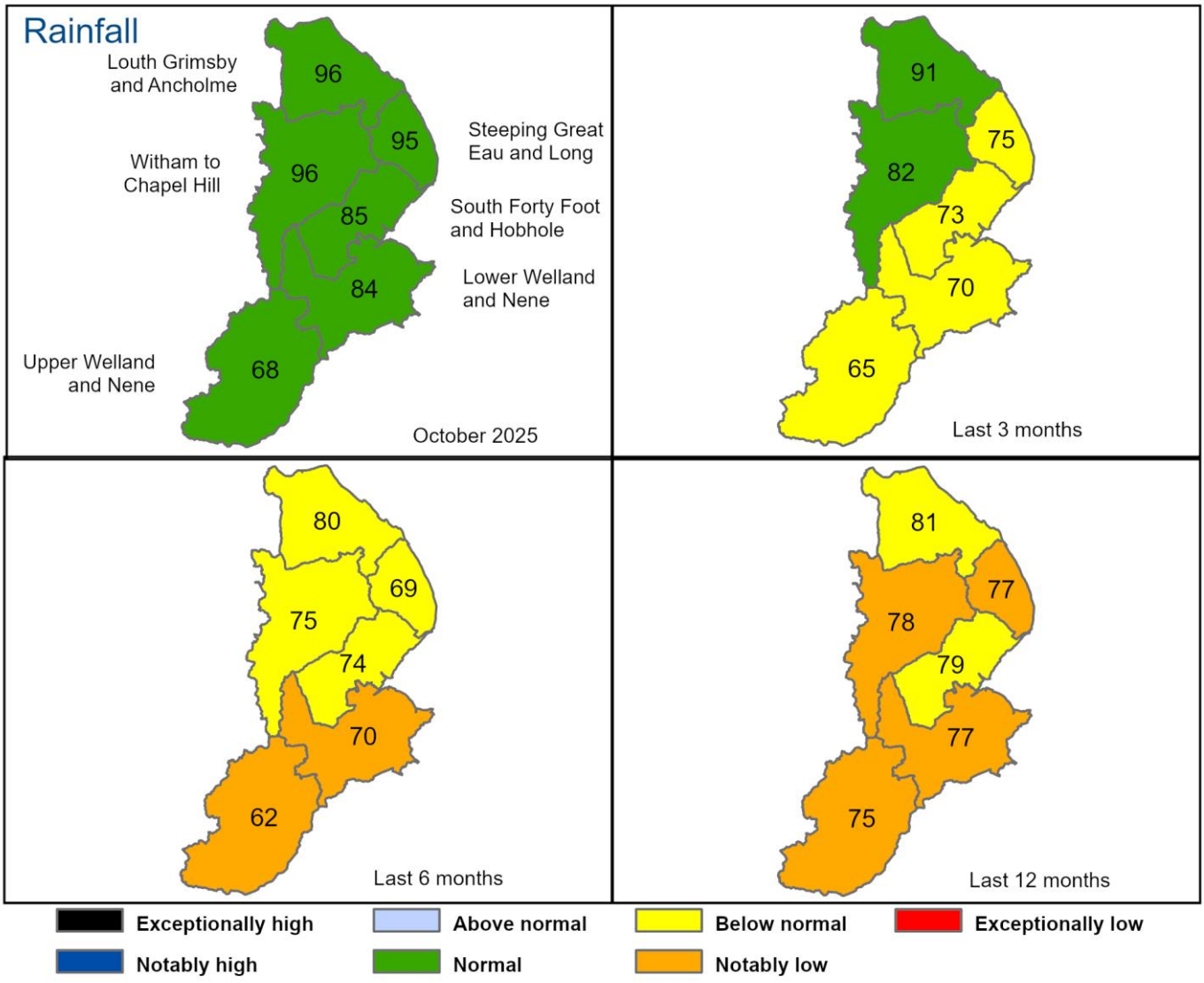
Contact Details: 03708 506 506

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 October 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.

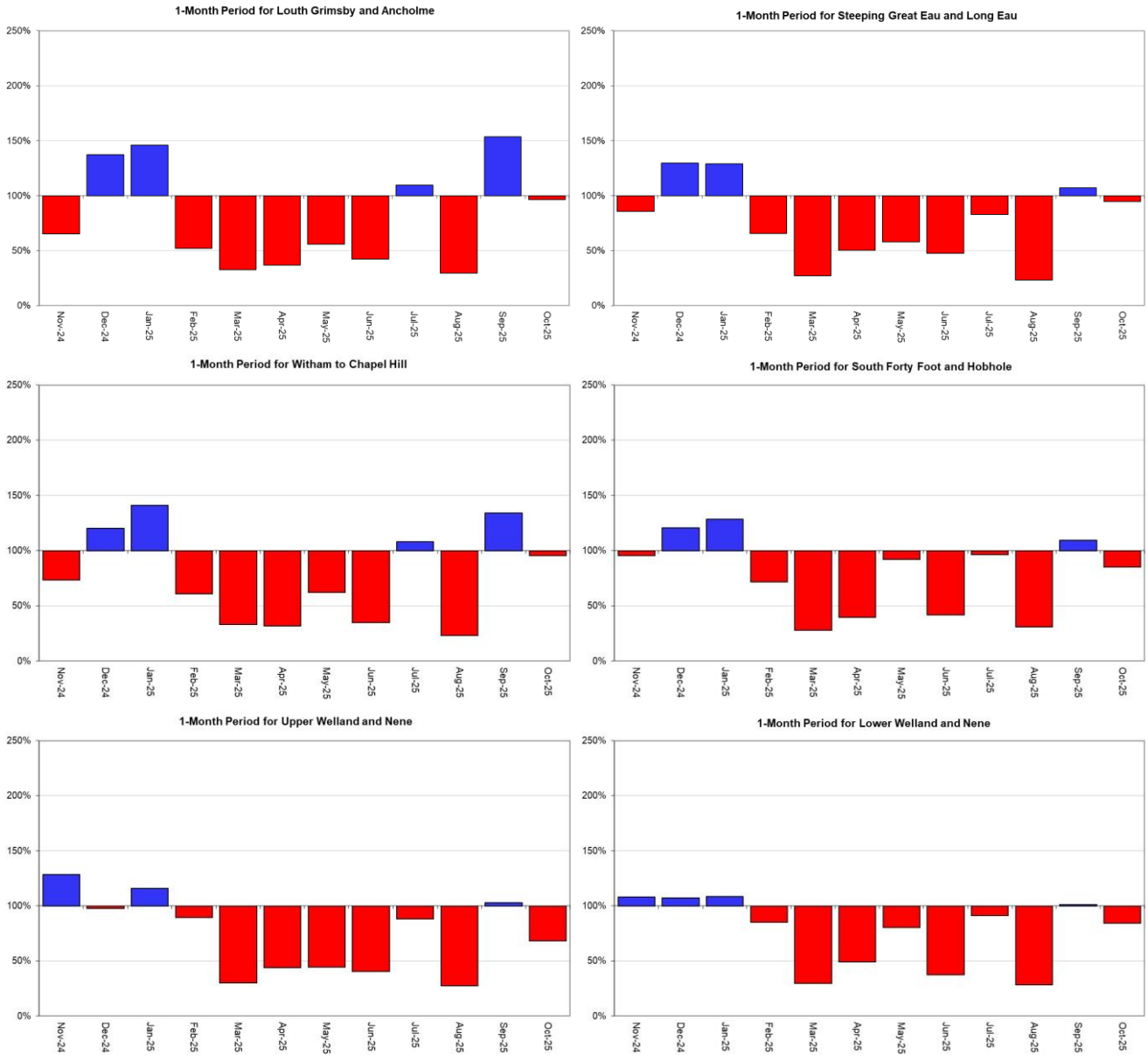


HadUK data based on the Met Office 1km gridded rainfall dataset derived from rain gauges (Source: Met Office. Crown copyright, 2025). Provisional data based on Environment Agency 1km gridded rainfall dataset derived from Environment Agency intensity rain gauges. Crown copyright. © Ordnance Survey Crown Copyright and Database Rights (2025) AC0000807064.

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.

Total Rainfall in Millimetres Long Term Average Rainfall in Millimetres

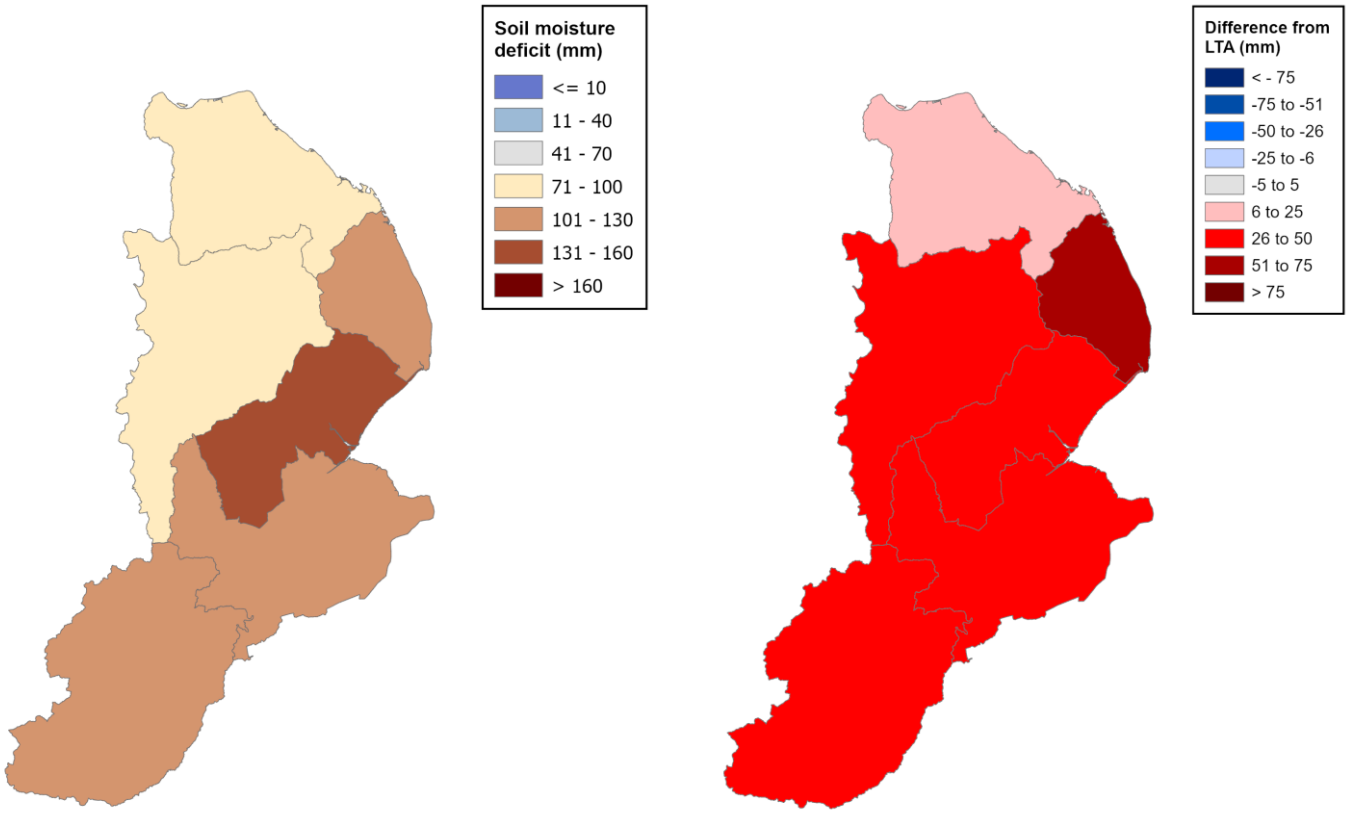


HadUK rainfall data. (Source: Met Office. Crown copyright, 2025).

3 Soil moisture deficit

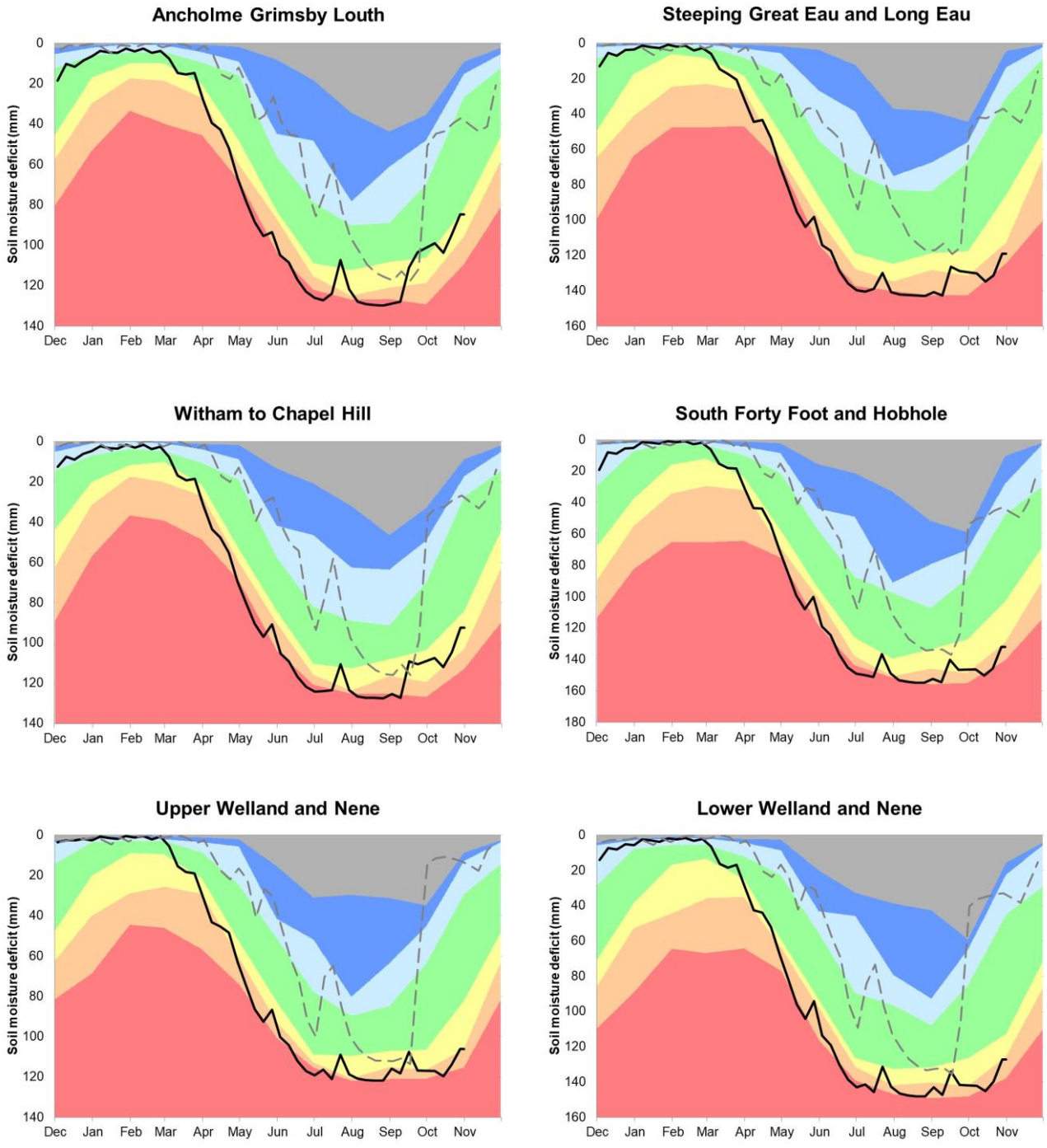
3.1 Soil moisture deficit map

Figure 3.1:Left map shows Soil moisture deficits for weeks ending 31 October 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

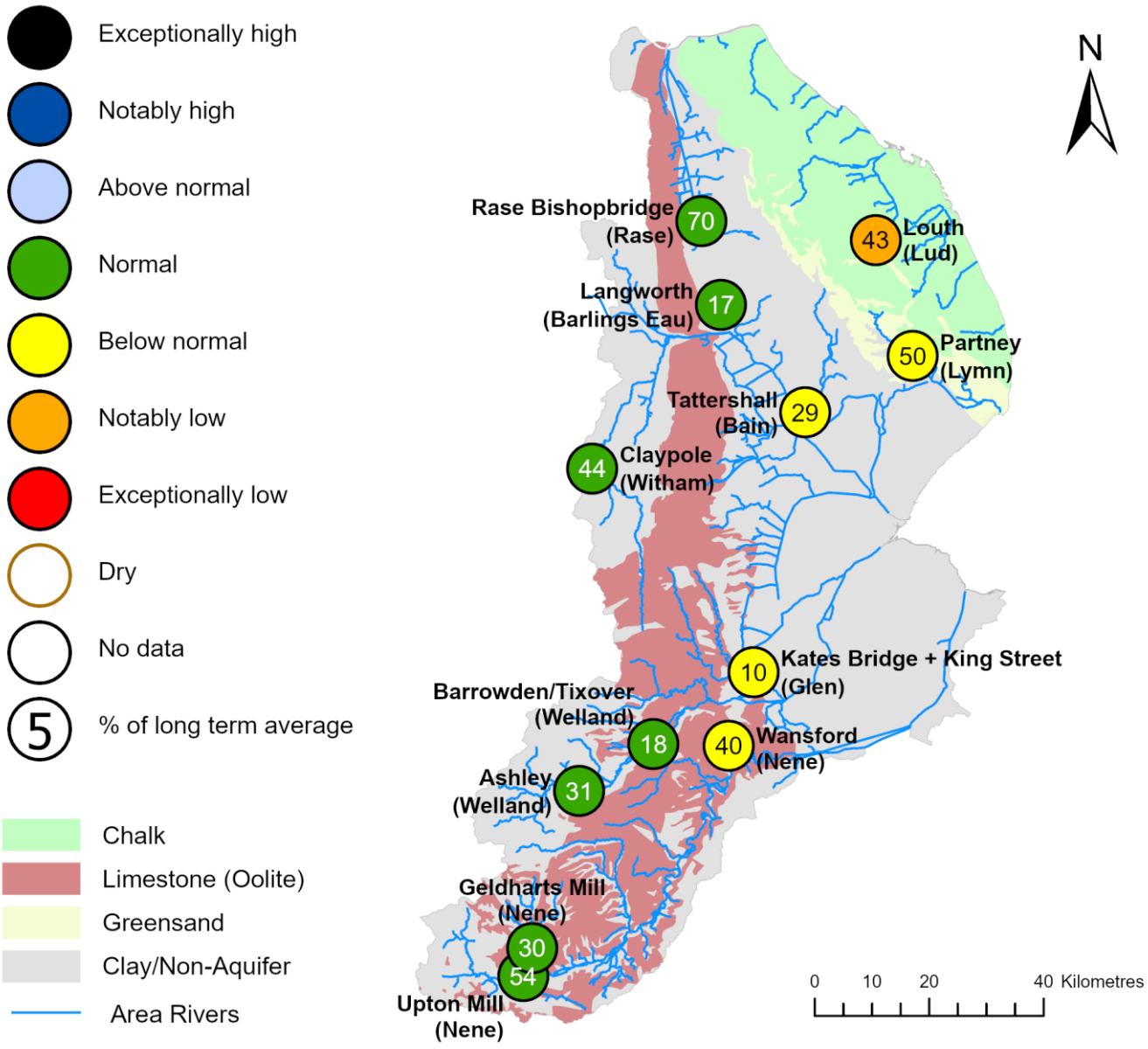
Figure 3.2: Latest soil moisture deficit compared to previous year, maximum, minimum, and 1991 to 2020 long term average. Weekly MORECS data for real land use.



4 River flows

4.1 River flows map

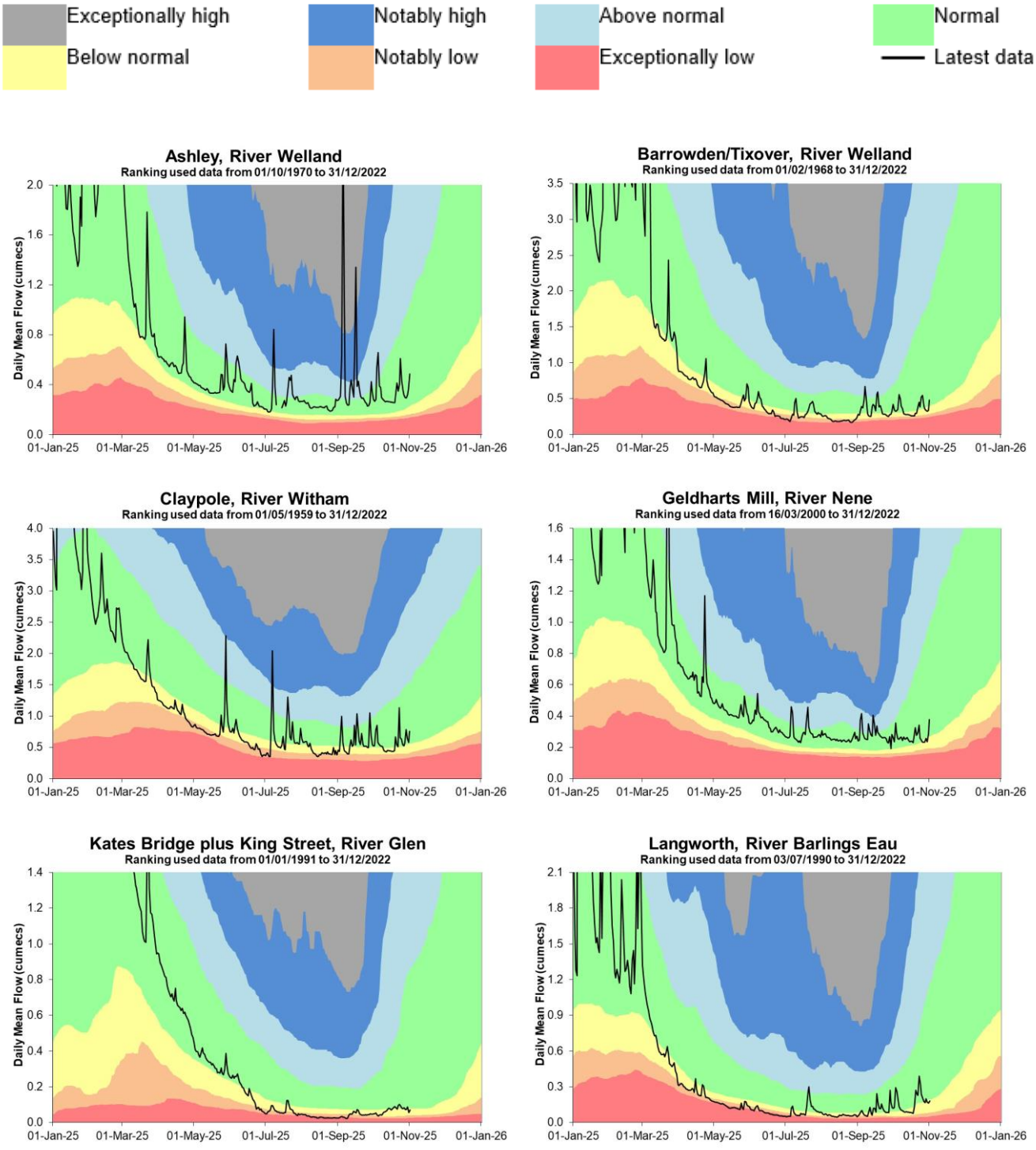
Figure 4.1: Monthly mean river flow for indicator sites for October 2025, expressed as a percentage of the respective long term average and classed relative to an analysis of historic October monthly means Table available in the appendices with detailed information.

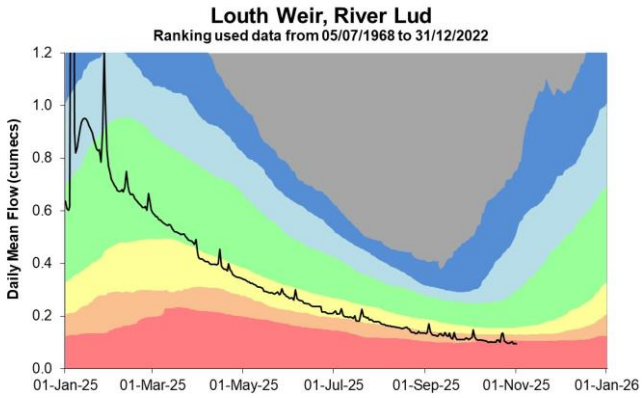


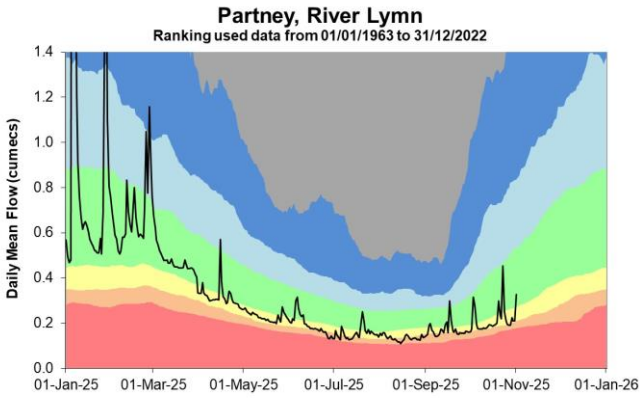
(Source: Environment Agency). Crown copyright. © Ordnance Survey Crown Copyright and Database Rights (2025) AC0000807064.

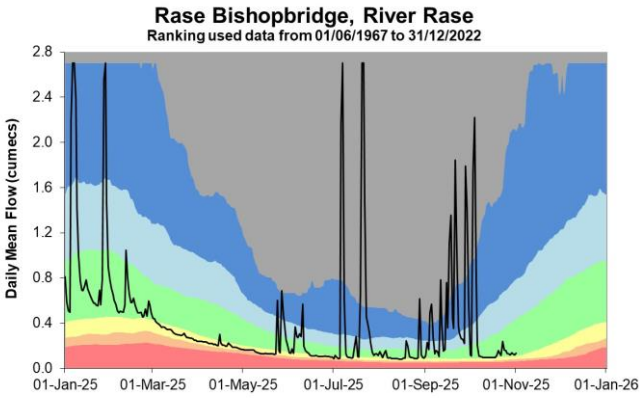
4.2 River flow charts

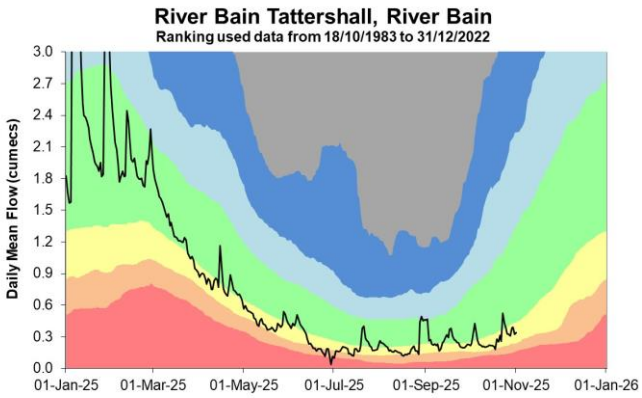
Figure 4.2: Daily mean river flow for index sites over the past year, compared to an analysis of historic daily mean flows, and long term maximum and minimum flows.

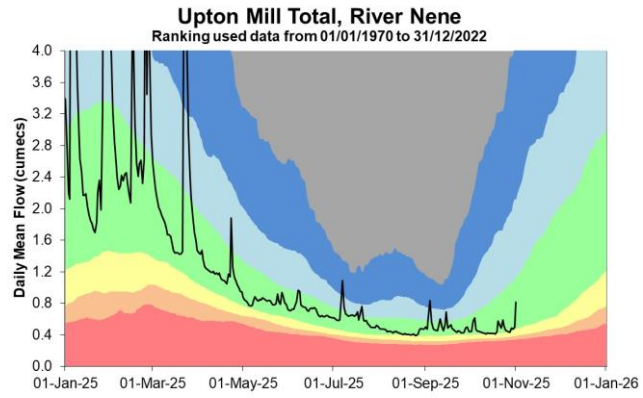


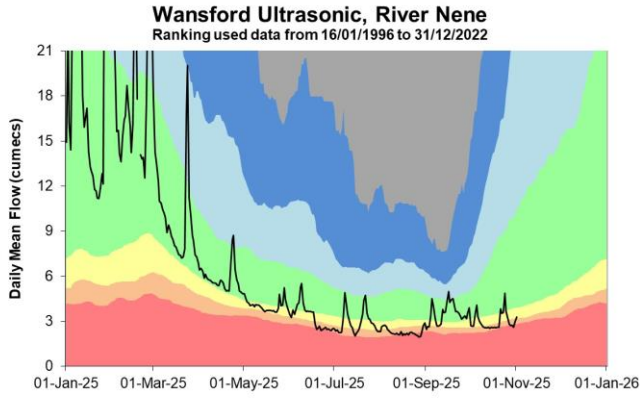










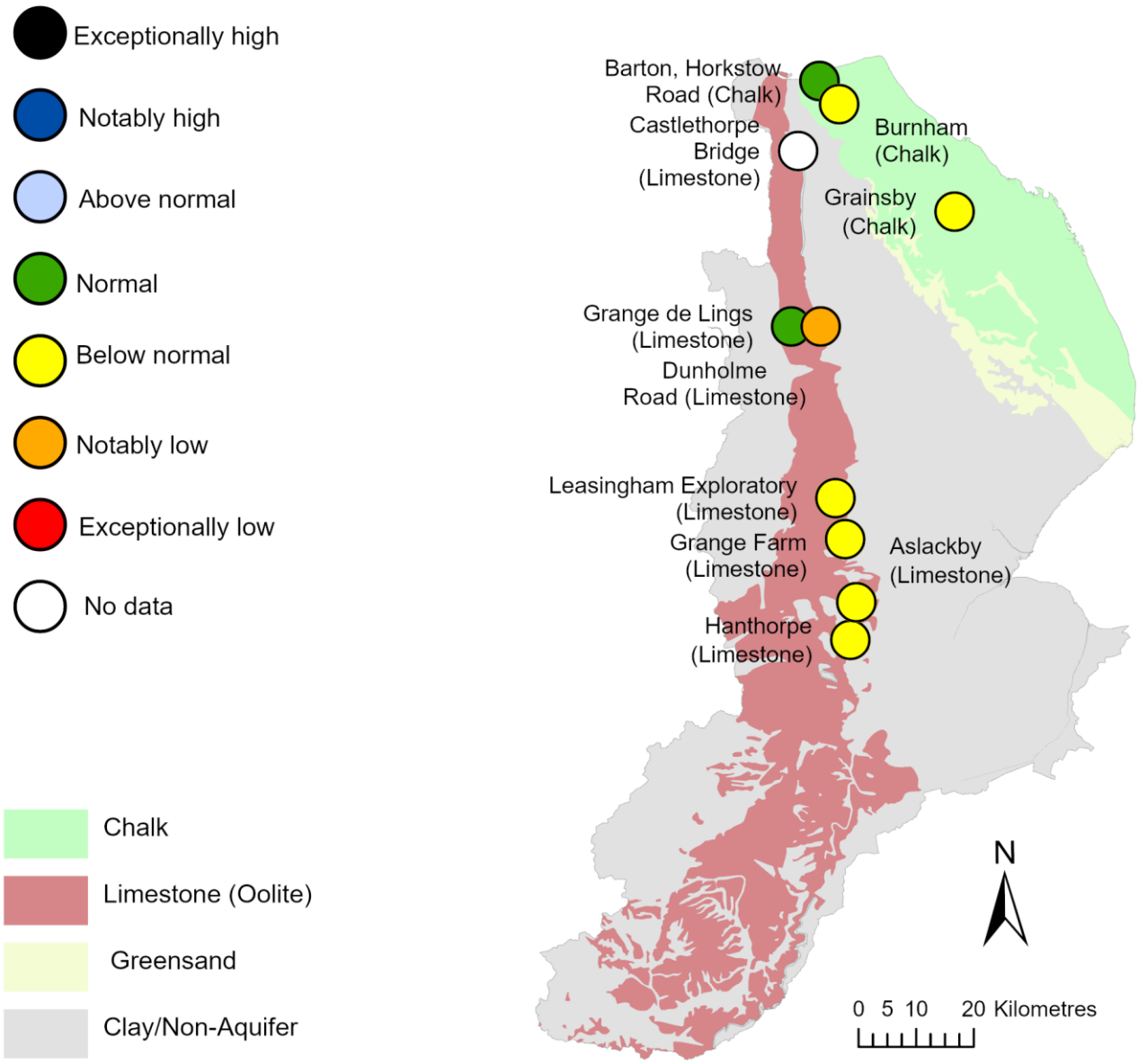


Source: Environment Agency.

5 Groundwater levels

5.1 Groundwater levels map

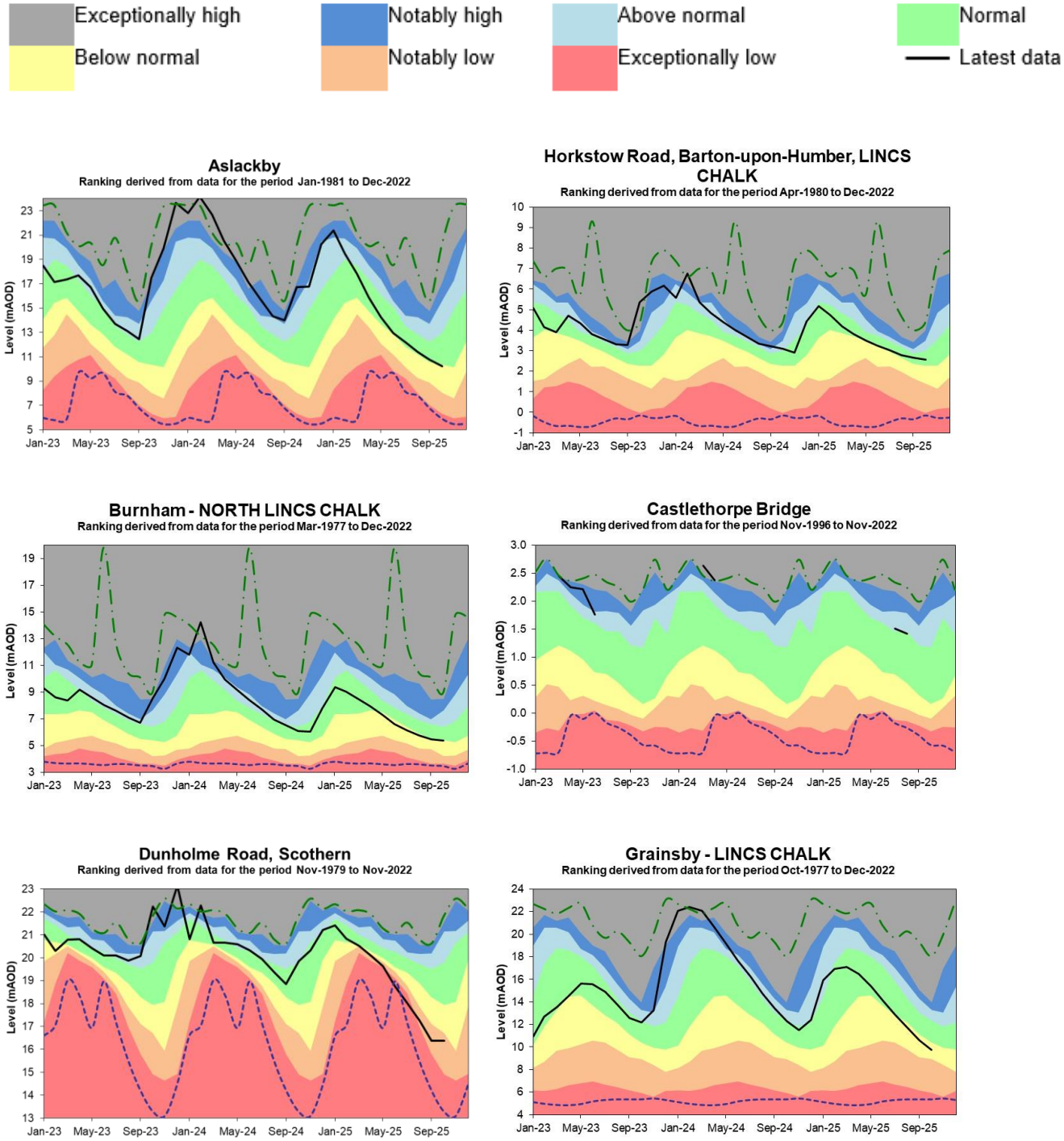
Figure 5.1: Groundwater levels for indicator sites at the end of October 2025, classed relative to an analysis of respective historic October levels. Table available in the appendices with detailed information.

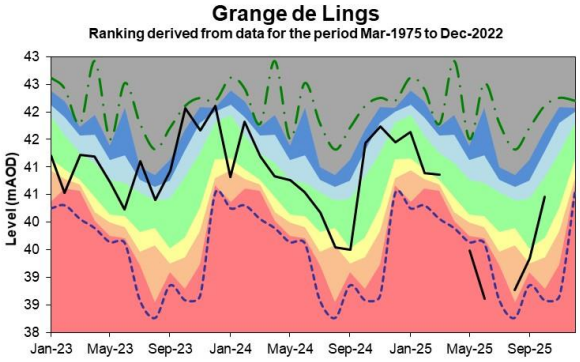


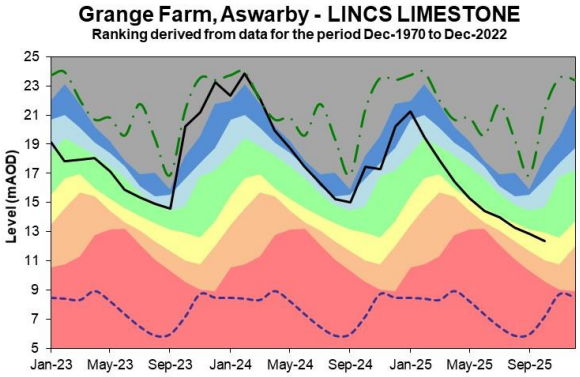
(Source: Environment Agency). Geological map reproduced with kind permission from UK Groundwater Forum, BGS copyright NERC. Crown copyright. © Ordnance Survey Crown Copyright and Database Rights (2025) AC0000807064.

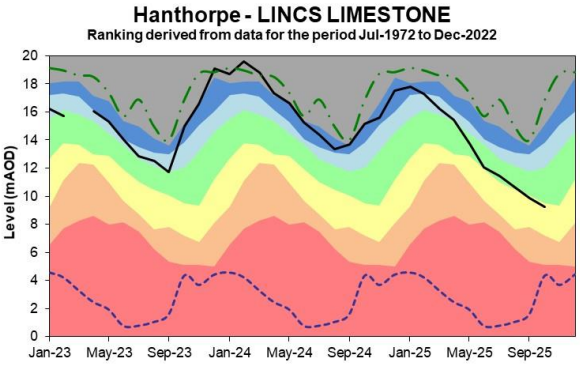
5.2 Groundwater level charts

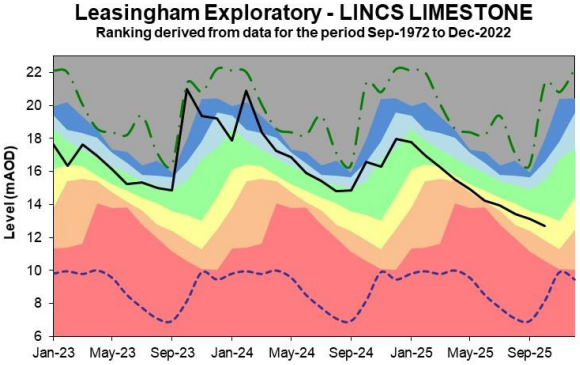
Figure 5.2: End of month groundwater levels at index groundwater level sites for major aquifers. 22 months compared to an analysis of historic end of month levels and long term maximum and minimum levels.







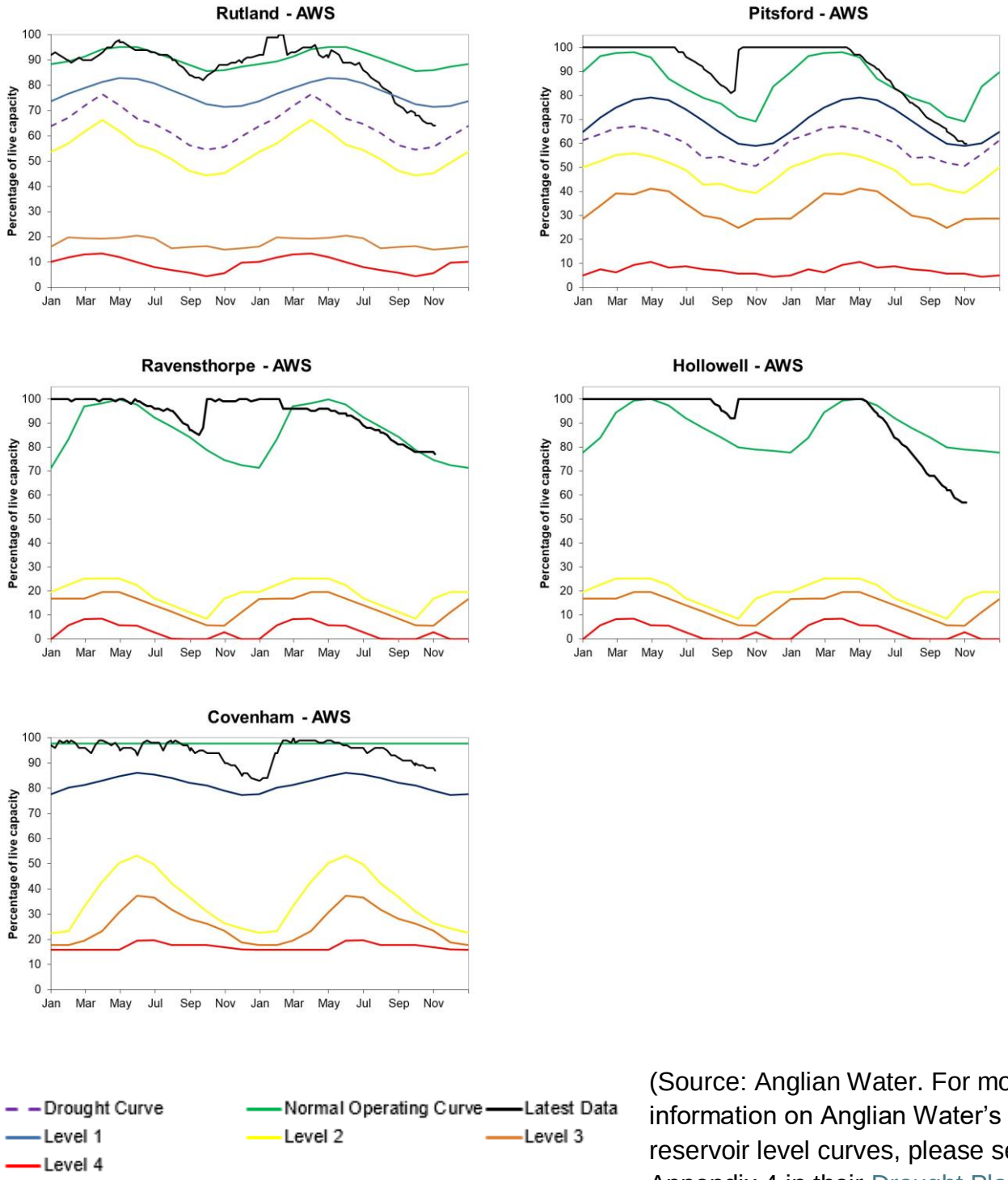




Source: Environment Agency, 2025.

6 Reservoir stocks

Figure 6.1: End of month regional reservoir stocks compared to the normal operating curve and Drought curves

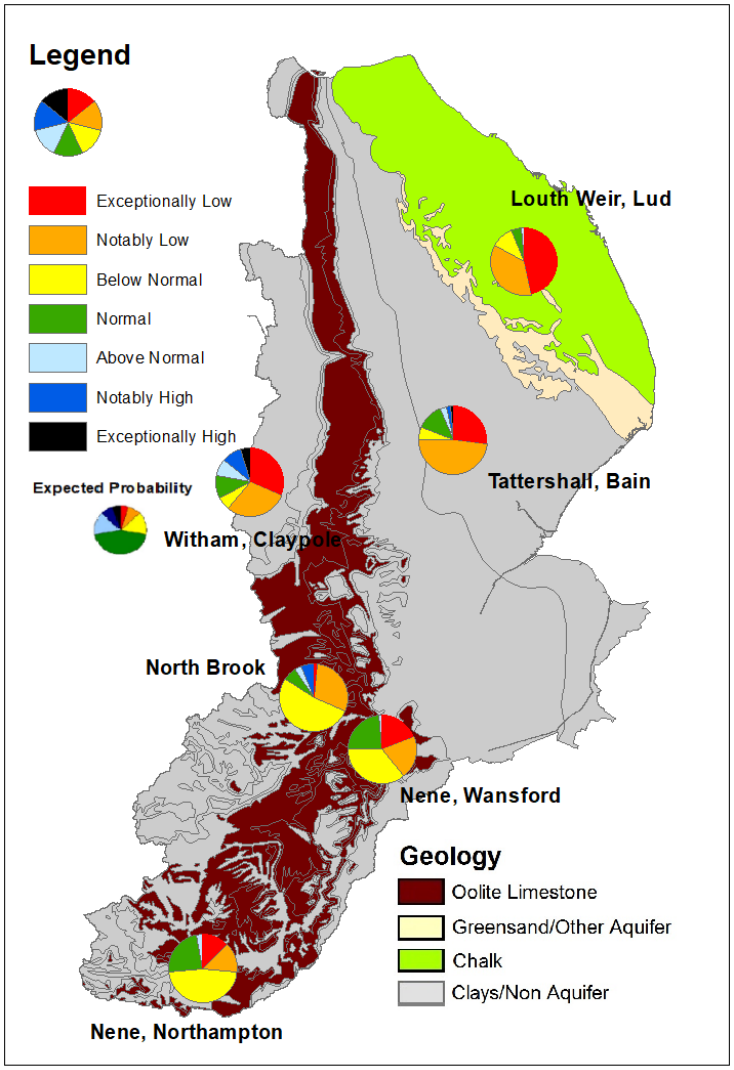


(Source: Anglian Water. For more information on Anglian Water's reservoir level curves, please see Appendix 4 in their Drought Plan).

7 Forward Look

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

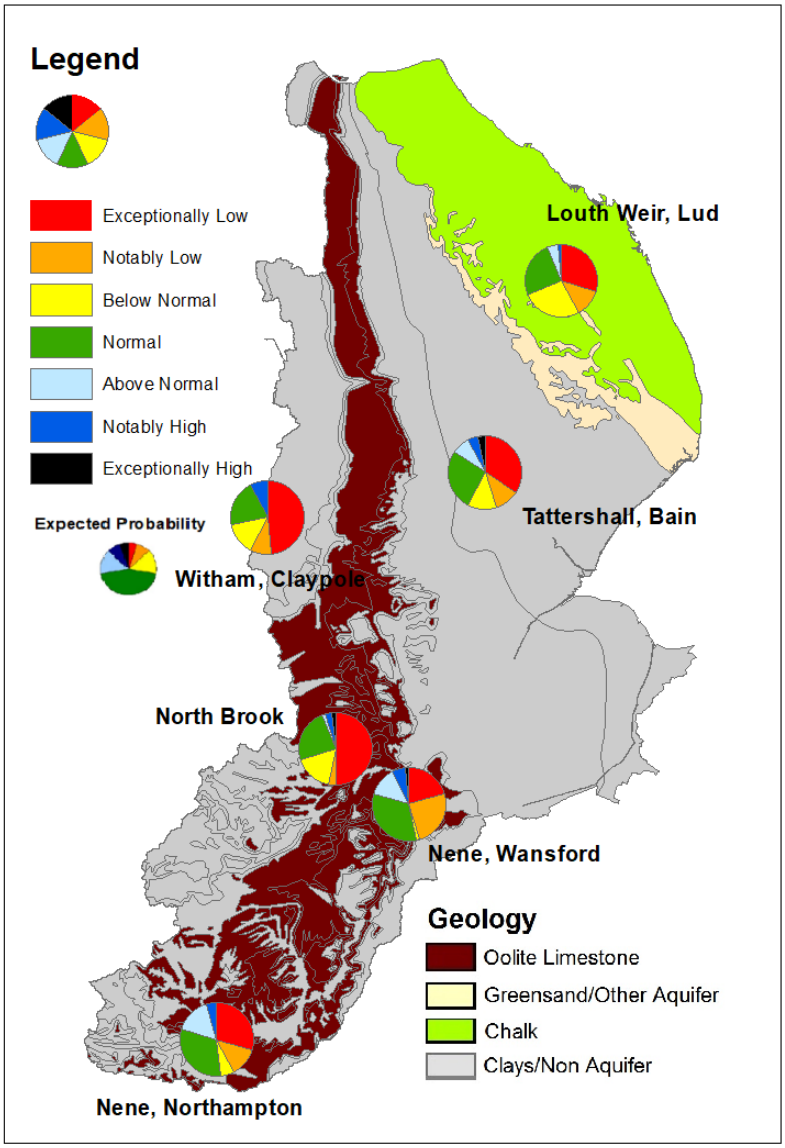
Table available in the appendices with detailed information. Exceptionally high or low levels are those which would typically occur 5% of the time within the historic record. Notably high or low levels are those which would typically occur 8% of the time. Above normal or below normal levels are those 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. © Ordnance Survey Crown Copyright and Database Rights (2025) AC0000807064.

7.2 Probabilistic ensemble projection of river flows 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.



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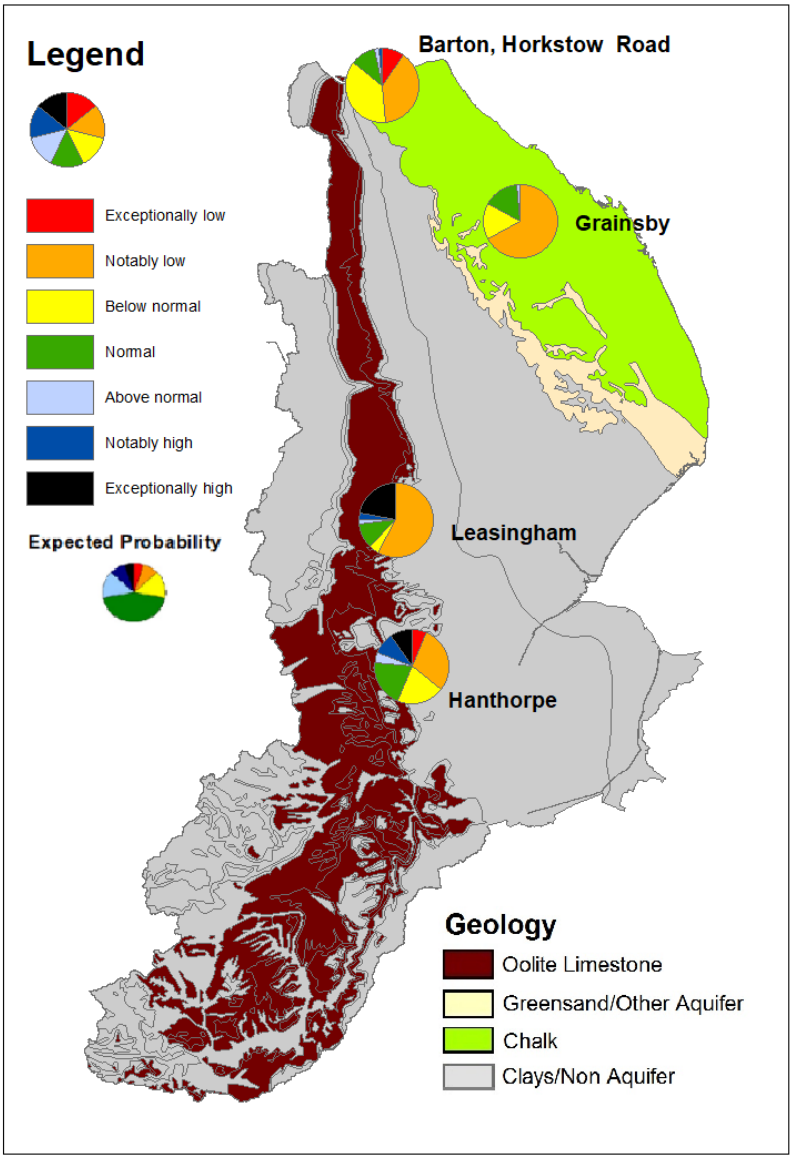
7.3 Probabilistic ensemble projection of groundwater levels at key sites in March 2026

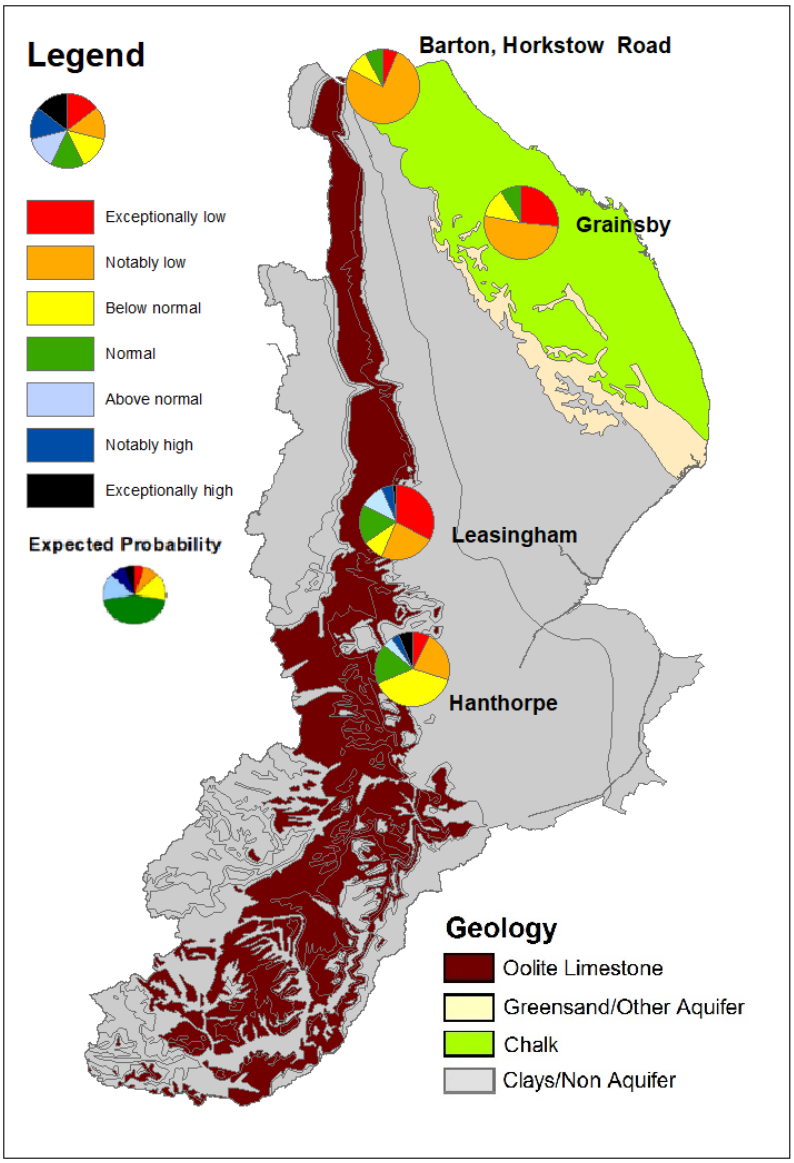
Table available in the appendices with detailed information. Exceptionally high or low levels are those which would typically occur 5% of the time within the historic record. Notably high or low levels are those which would typically occur 8% of the time. Above normal or below normal levels are those 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) Geological map reproduced with kind permission from UK Groundwater Forum, BGS © NERC. Crown copyright. © Ordnance Survey Crown Copyright and Database Rights (2025) AC0000807064.

7.4 Probabilistic ensemble projection of groundwater levels at key sites in September 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) Geological map reproduced with kind permission from UK Groundwater Forum, BGS © NERC. Crown copyright. © Ordnance Survey Crown Copyright and Database Rights (2025) AC0000807064.

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	Oct 2025 rainfall % of long term average 1991 to 2020	Oct 2025 band	Aug 2025 to October cumulative band	May 2025 to October cumulative band	Nov 2024 to October cumulative band
Louth Grimsby And Ancholme	52	Below Normal	Exceptionally low	Below normal	Below normal
Lower Welland And Nene	76	Normal	Notably low	Below normal	Normal
South Forty Foot And Hobhole	88	Normal	Notably low	Below normal	Normal
Steeping Great Eau And Long Eau	55	Below Normal	Exceptionally low	Below normal	Normal
Upper Welland And Nene	45	Notably Low	Exceptionally low	Notably low	Normal
Witham To Chapel Hill	60	Below Normal	Exceptionally low	Below normal	Normal

9.2 River flows table

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

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

9.3 Groundwater table

Site name	Aquifer	End of Oct 2025 band	End of Sep 2025 band
Aslackby	Limestone (cornbrash Formation)	Below 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		
Dunholme Road, Scothern	Grimsby Ancholme Louth Limestone	Notably low	Notably low
Grainsby	Grimsby Ancholme Louth Chalk	Below normal	Below normal
Grange De Lings	Grimsby Ancholme Louth Limestone	Normal	Below normal
Grange Farm, Aswarby	Limestone (mudstone - Peterborough Member)	Below normal	Below normal

Hanthorpe	Limestone (cornbrash Formation)	Below normal	Below 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 December 2025

Percentage of pie chart for each band

Site	Nene Nton	Nene Wansford	North Brook	Claypole	Louth	Tattershall
Exceptionally low	12.5	18.8	1.6	31.3	46.9	26.6
Notably low	14.1	20.3	29.7	29.7	35.9	48.4
Below normal	46.9	35.9	53.1	6.3	10.9	6.3
Normal	23.4	23.4	6.3	10.9	4.7	12.5
Above normal	3.1	1.6	3.1	7.8	1.6	3.1
Notably high	0.0	0.0	6.3	9.4	0.0	1.6
Exceptionally high	0.0	0.0	0.0	4.7	0.0	1.6

9.4.2 Probabilistic ensemble projection of river flows at key sites in March 2026

Percentage of pie chart for each band

Site	Nene Nton	Nene Wansford	North Brook	Claypole	Louth	Tattershall
Exceptionally low	29.7	20.3	50.0	48.4	29.7	34.4
Notably low	12.5	25.0	3.1	9.4	12.5	10.9
Below normal	6.3	1.6	17.2	14.1	26.6	12.5
Normal	31.3	32.8	23.4	20.3	25.0	26.6
Above normal	15.6	12.5	1.6	0.0	4.7	7.8
Notably high	4.7	6.3	3.1	7.8	1.6	4.7
Exceptionally high	0.0	1.6	1.6	0.0	0.0	3.1

9.4.3 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	6.3	9.4	0.0
Notably low	67.2	29.7	39.1	57.8
Below normal	15.6	20.3	37.5	4.7
Normal	15.6	20.3	10.9	10.9
Above normal	1.6	4.7	1.6	1.6
Notably high	0.0	9.4	1.6	3.1
Exceptionally high	0.0	9.4	0.0	21.9

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

Percentage of pie chart for each band

Site	Grainsby	Hanthorpe	Horkstow	Leasingham
Exceptionally low	26.6	7.8	6.3	32.8
Notably low	51.6	21.9	76.6	23.4
Below normal	12.5	39.1	9.4	9.4
Normal	9.4	17.2	7.8	17.2
Above normal	0.0	4.7	0.0	10.9
Notably high	0.0	3.1	0.0	4.7
Exceptionally high	0.0	6.3	0.0	1.6