Monthly water situation report: Lincolnshire and Northamptonshire Area

1 Summary - July 2025

In contrast to the preceding months, July 2025 received average rainfall across Lincolnshire and Northamptonshire (LNA). Precipitation totals ranged from 83% to 110% of the long-term average (LTA), normal for this time of year. Despite the respite in dry weather, five of the six hydrological areas have experienced below normal or notably low precipitation totals over the last 3 months and the soil moisture deficit (SMD) remained high at 129.1mm, on average, across the area.

River flows displayed an east-west split as those catchments in the west saw flows recover to a flow categorisation of normal or above, 62% to 207% of the LTA, while rivers towards the east saw less recovery and are classified as exceptionally low to below normal, 14% to 59% of the LTA. Groundwater levels remained stable and, in most cases, unchanged, with the exception of Grange de Lings which recorded normal groundwater levels for this time of year, compared to exceptionally low levels in the previous month.

Reservoirs remained slightly below target levels for this time of year. The Trent-Witham-Ancholme transfer scheme operated throughout the majority of the month and the Slea Augmentation scheme was also in operation throughout July.

1.1 Rainfall

The six hydrological areas of LNA saw between 50mm and 66mm of precipitation during July 2025, all classified as normal for this time of year, 83% to 110% of the LTA. The precipitation totals were a stark contrast to totals experienced in the area over the past 3 to 6 months, which have been characterised by dry weather and infrequent precipitation.

During the period of May to July 2025 five of the six hydrological areas have experienced below normal or notably low precipitation totals, with the Upper Welland and Nene area experiencing particularly low precipitation, just 59% of the LTA for the period. Over the past 6 months, LNA has experienced the seventh driest February to July on record, 173mm (59% LTA), with individual hydrological areas experiencing between their fifth and tenth driest periods, over the same time span, and a maximum of 64% of the LTA rainfall received in any hydrological area. Despite a dry 2025, the six hydrological areas have experienced between 81% to 95% of the LTA precipitation over past 12 months. However, there is a clear north-south divide, with areas within the north of LNA experiencing the lower end of that LTA range

and below normal rainfall totals for the 12-month period, as opposed to the southern areas that have received normal rainfall totals over the same time frame.

1.2 Soil moisture deficit and recharge

The SMD across LNA by the end of July 2025, 129.1mm, remained close to the SMD recorded at the end of the previous month, 130mm, despite a sharp reduction in the deficit two thirds of the way through the month during a period a high rainfall. A dry last week of July meant the SMD quickly built up again to mirror the end of June 2025. Five of the six hydrological areas have an SMD 26-50mm greater than the LTA, with Louth Grimsby and Ancholme 6-25mm greater than the LTA.

1.3 River flows

Rivers flows varied between 14% and 207% of their LTA during July 2025. Flows predominately sat between below normal and normal classification with an east-west split as catchments in the west saw flows recover to a flow categorisation of normal or above, 62% to 207% of the LTA, while rivers towards the east saw less recovery and are classified as exceptionally low to below normal, 14% to 59% of the LTA. Kates Bridge + King Street on the Glen was the one site to see a flow categorisation reduction compared to the preceding month, while flows at four sites increased by at least one classification banding.

1.4 Groundwater levels

Groundwater levels remained unchanged at sites across LNA with the exception of Grange de Lings which recorded normal groundwater levels for this time of year, compared to exceptionally low levels in the previous month. Sites have recorded below normal to normal groundwater levels, except for Dunholme Road, which continues to report exceptionally low levels, and Castlethorpe Bridge, which recorded above normal groundwater levels for this time of year.

1.5 Reservoir stocks

Despite the increase in rainfall, compared to the past six months, reservoir levels continue to be drawn down below their normal operating curves, including Pitsford which has been at target level by the end of June 2025. While reservoirs are below normal operating levels, they are all comfortably above drought alert levels.

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 July. The Gwash-Glen transfer scheme remains off. During July there were 37 Hands-Off-Flows active across the area, with 23 resume notices issued after high precipitation towards the end of the month. There were no flood alerts or warnings issued during July in LNA.

1.7 Forward look

1.7.1 Probabilistic ensemble projections for river flows at key sites

September 2025: All sites are likely to experience below normal to normal flows with the exception of Nene, Northampton being more likely to experience flows above normal compared to the other sites.

December 2025: Projections are less conclusive by December 2025, but high probability of flows being normal or below across all sites.

1.7.2 Probabilistic ensemble projections for groundwater levels in key aquifers

December 2025: Sites to the north, Grainsby and Barton, are likely to have either normal or below normal groundwater levels, while the sites in the south and likely to have groundwater levels below normal or lower.

March 2026: Groundwater projections for six months are less conclusive, but all groundwater sites are more likely to have below normal or lower groundwater levels than normal or above.

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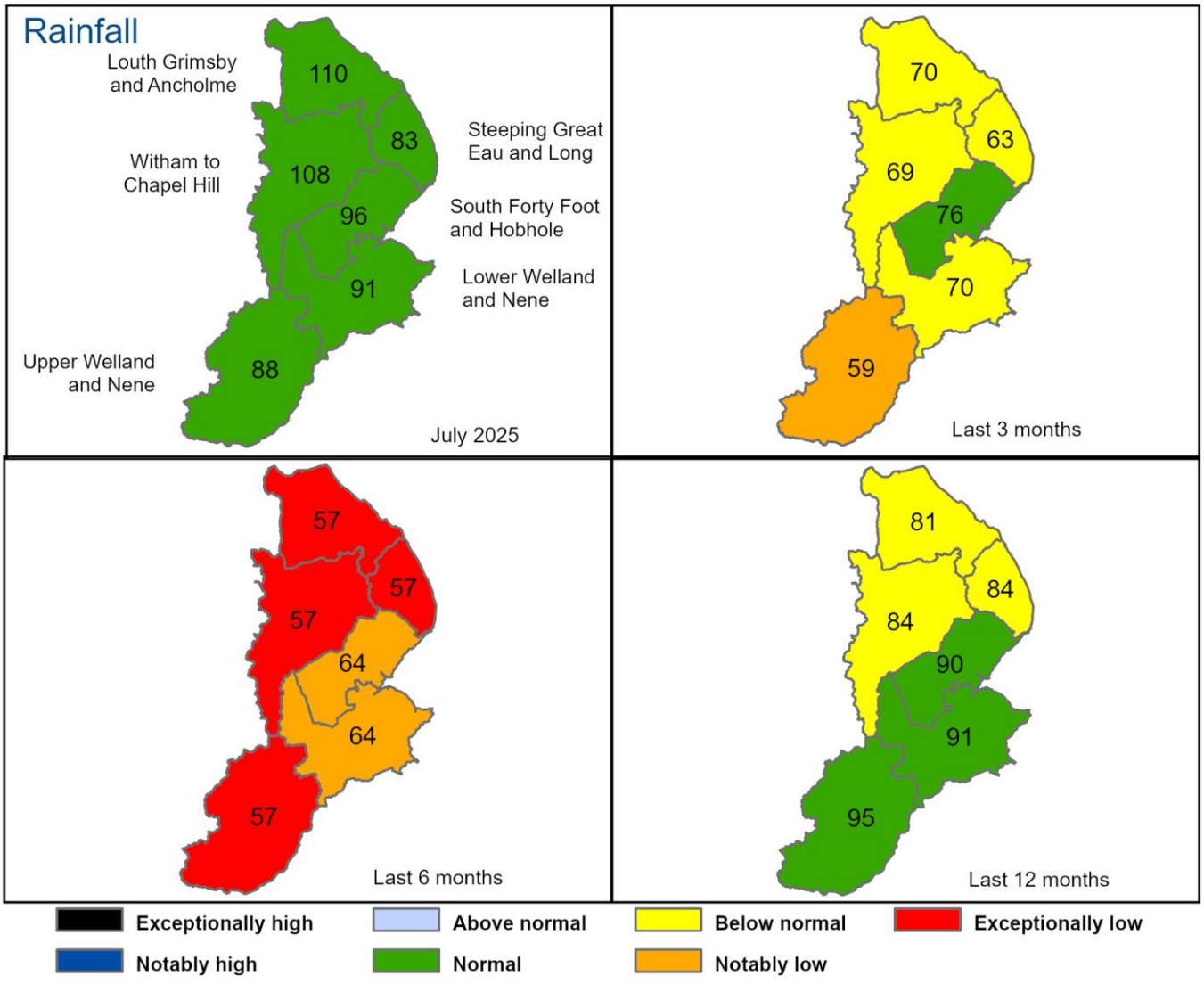
Contact details: 03708 506 506

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 July 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.

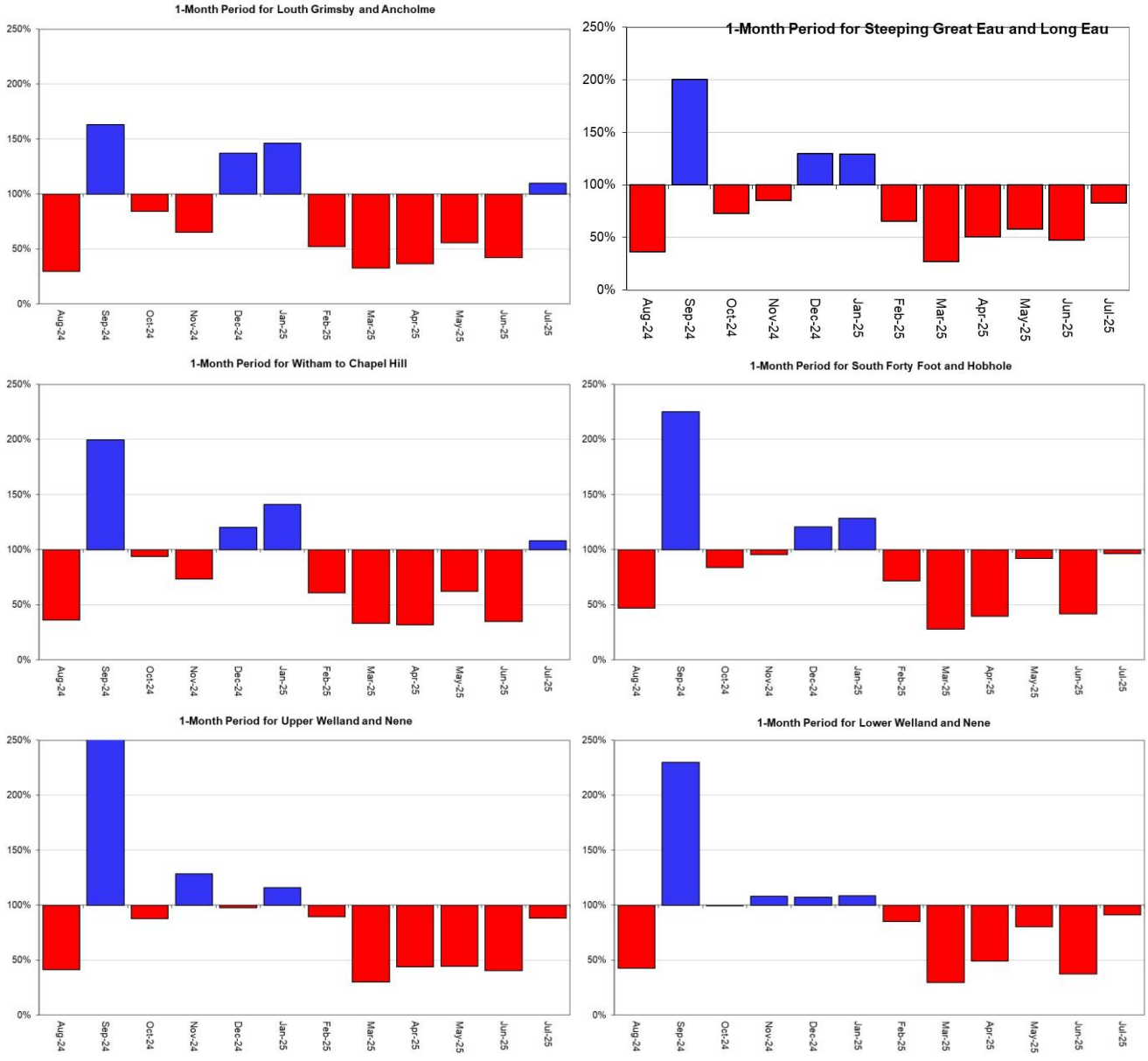


HadUK data based on the Met Office 1km gridded rainfall dataset derived from rain gauges (Source: Met Office. Crown copyright, 2025). Provisional data based on Environment Agency 1km gridded rainfall dataset derived from Environment Agency intensity rain gauges. Crown copyright. All rights reserved.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

Total Rainfall in Millimetres Long Term Average Rainfall in Millimetres

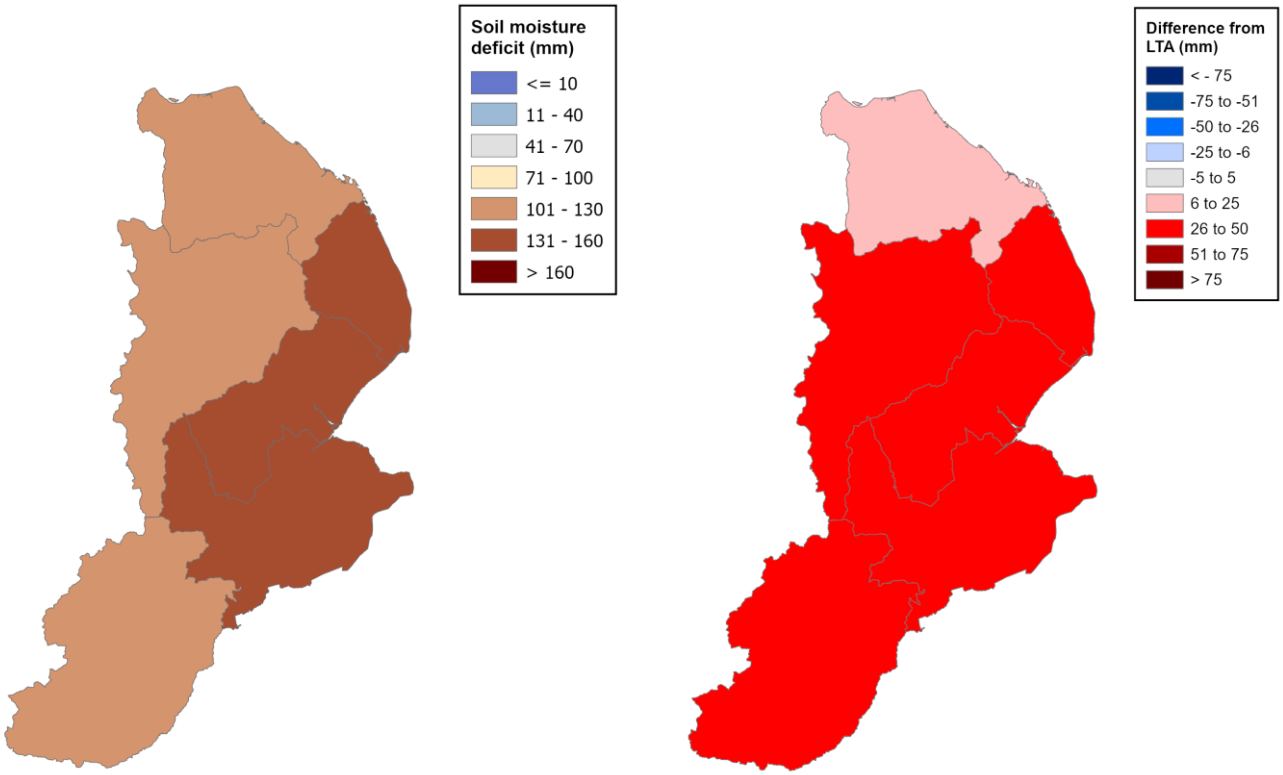


HadUK rainfall data. (Source: Met Office. Crown copyright, 2025).

3 Soil moisture deficit

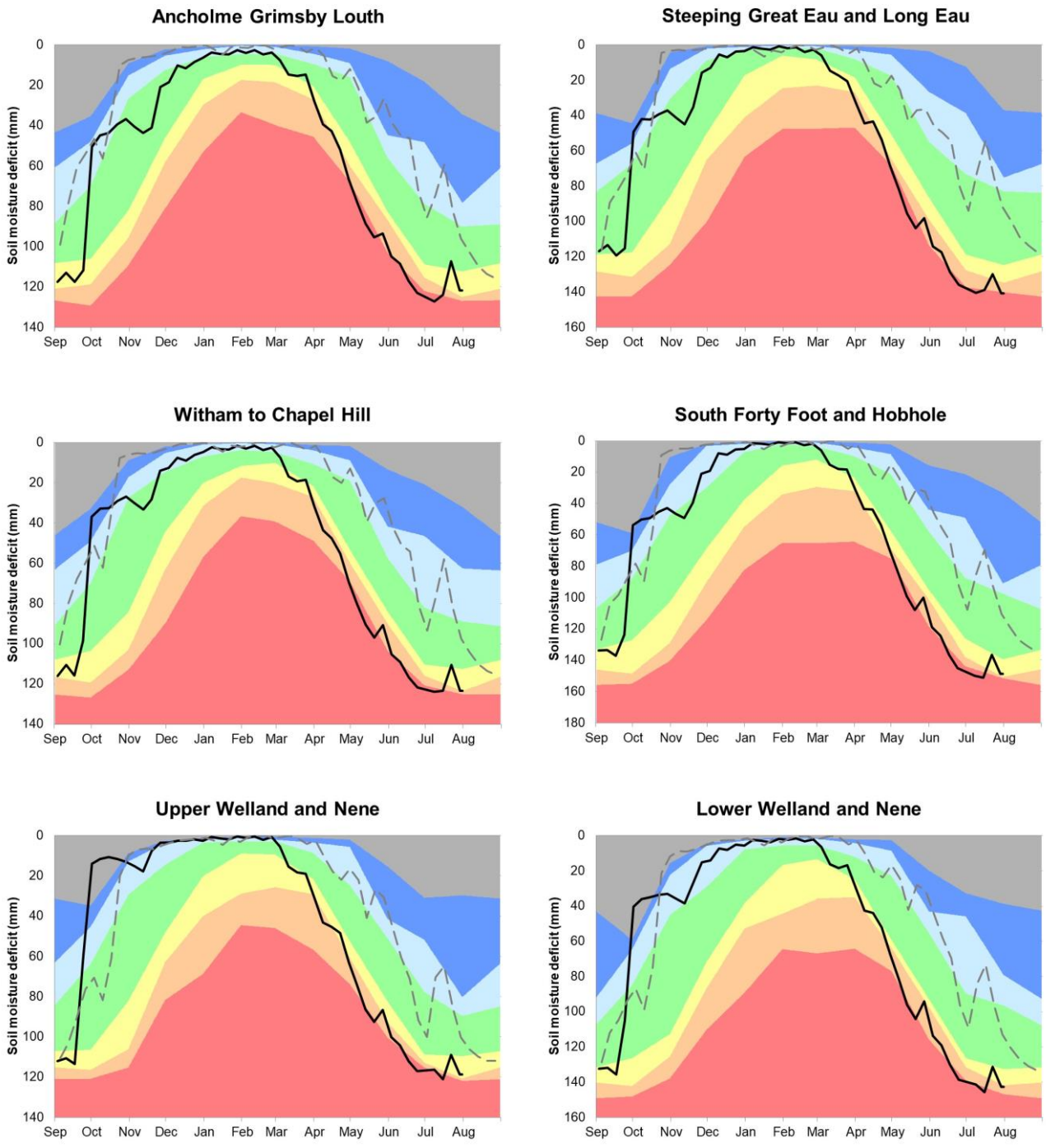
3.1 Soil moisture deficit map

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

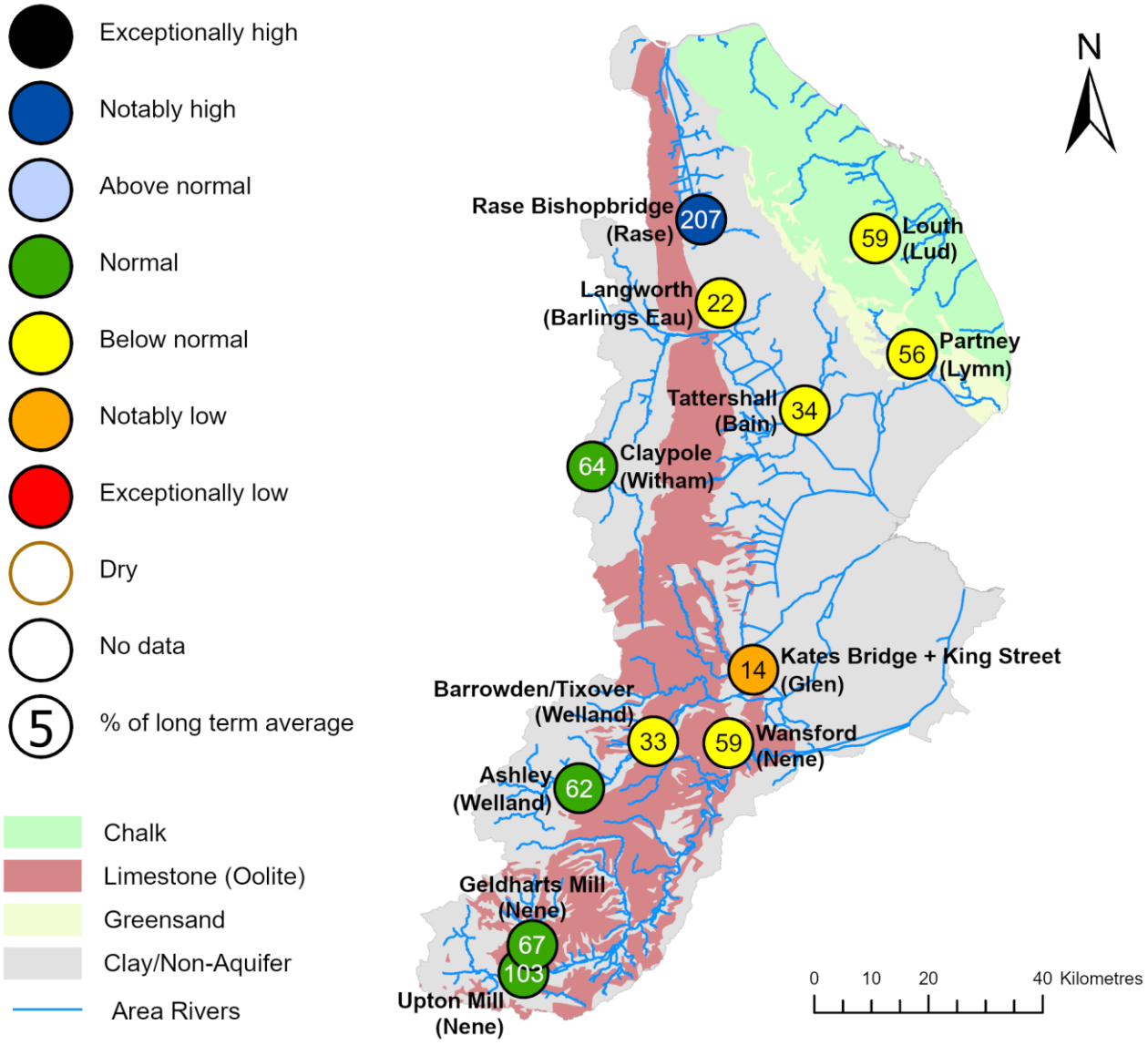
Figure 3.2: Latest soil moisture deficit compared to previous year, maximum, minimum, and 1991 to 2020 long term average. Weekly MORECS data for real land use.



4 River flows

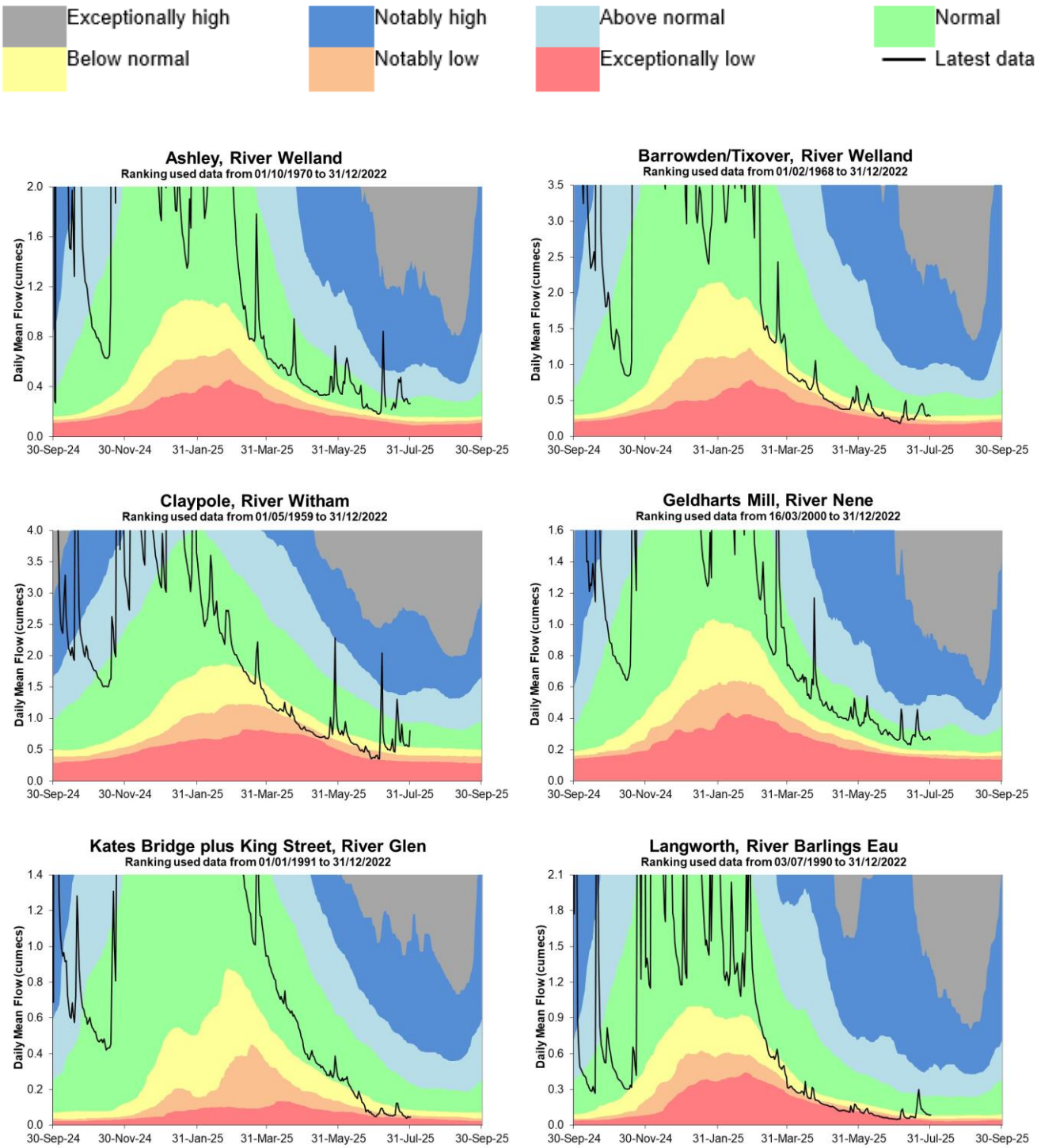
4.1 River flows map

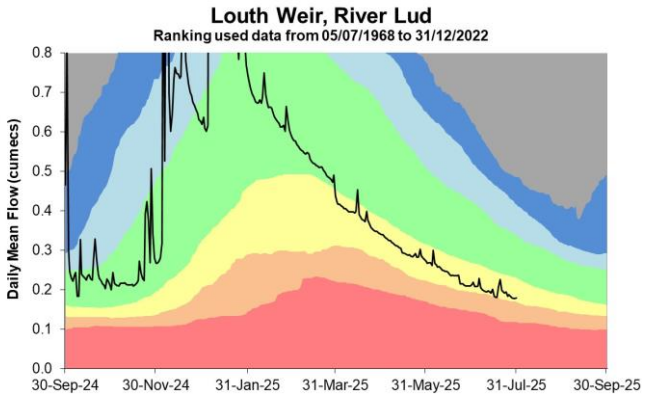
Figure 4.1: Monthly mean river flow for indicator sites for July 2025, expressed as a percentage of the respective long term average and classed relative to an analysis of historic July monthly means Table available in the appendices with detailed information.

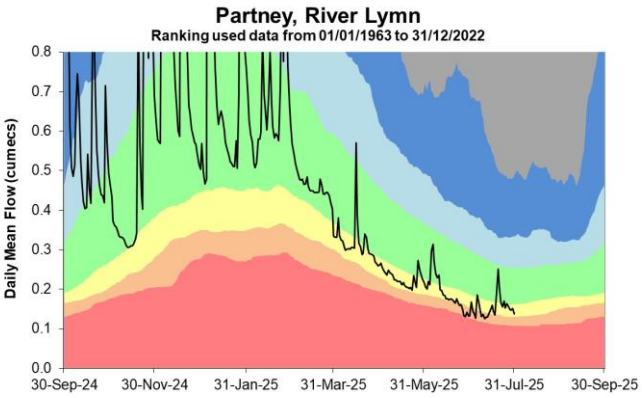


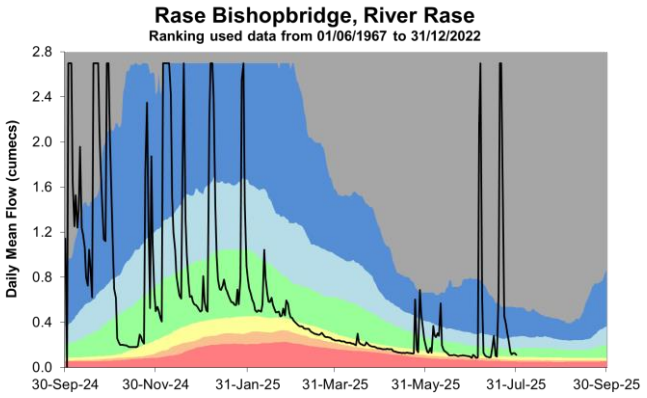
4.2 River flow charts

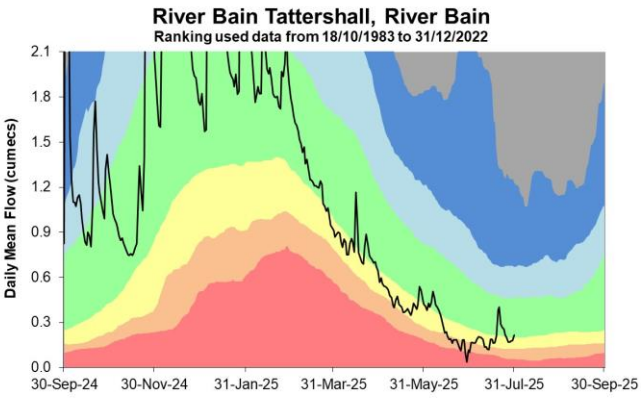
Figure 4.2: Daily mean river flow for index sites over the past year, compared to an analysis of historic daily mean flows, and long term maximum and minimum flows.

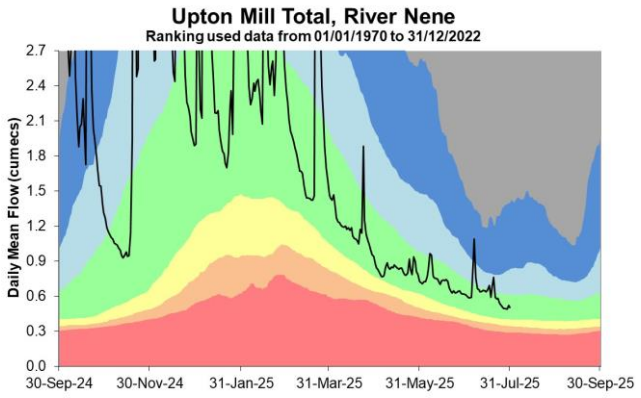


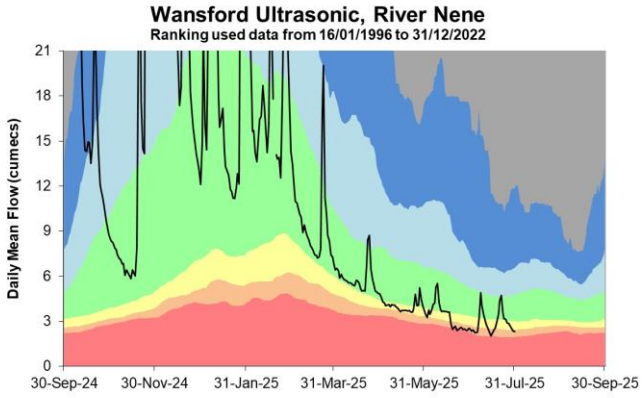










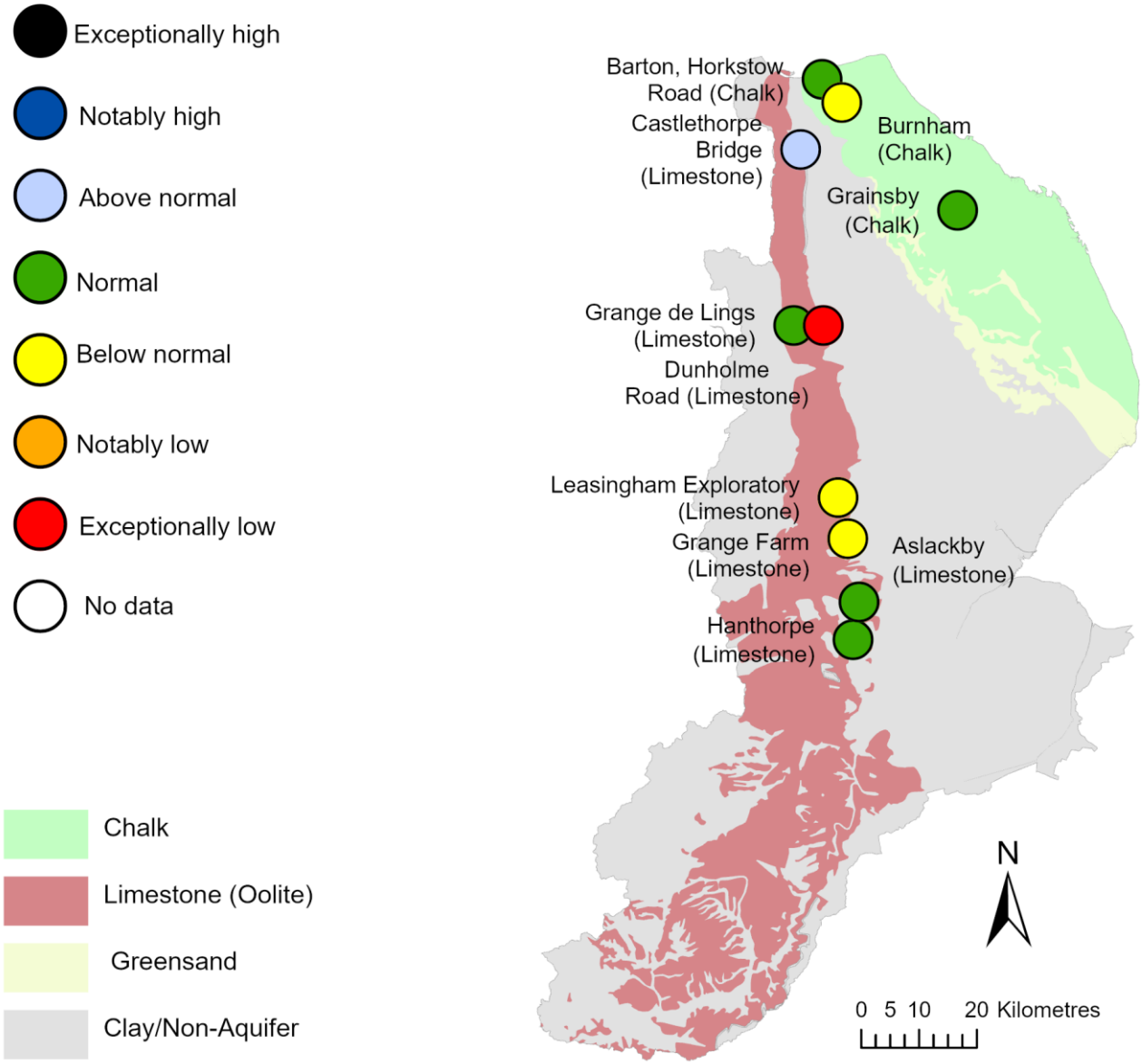


Source: Environment Agency.

5 Groundwater levels

5.1 Groundwater levels map

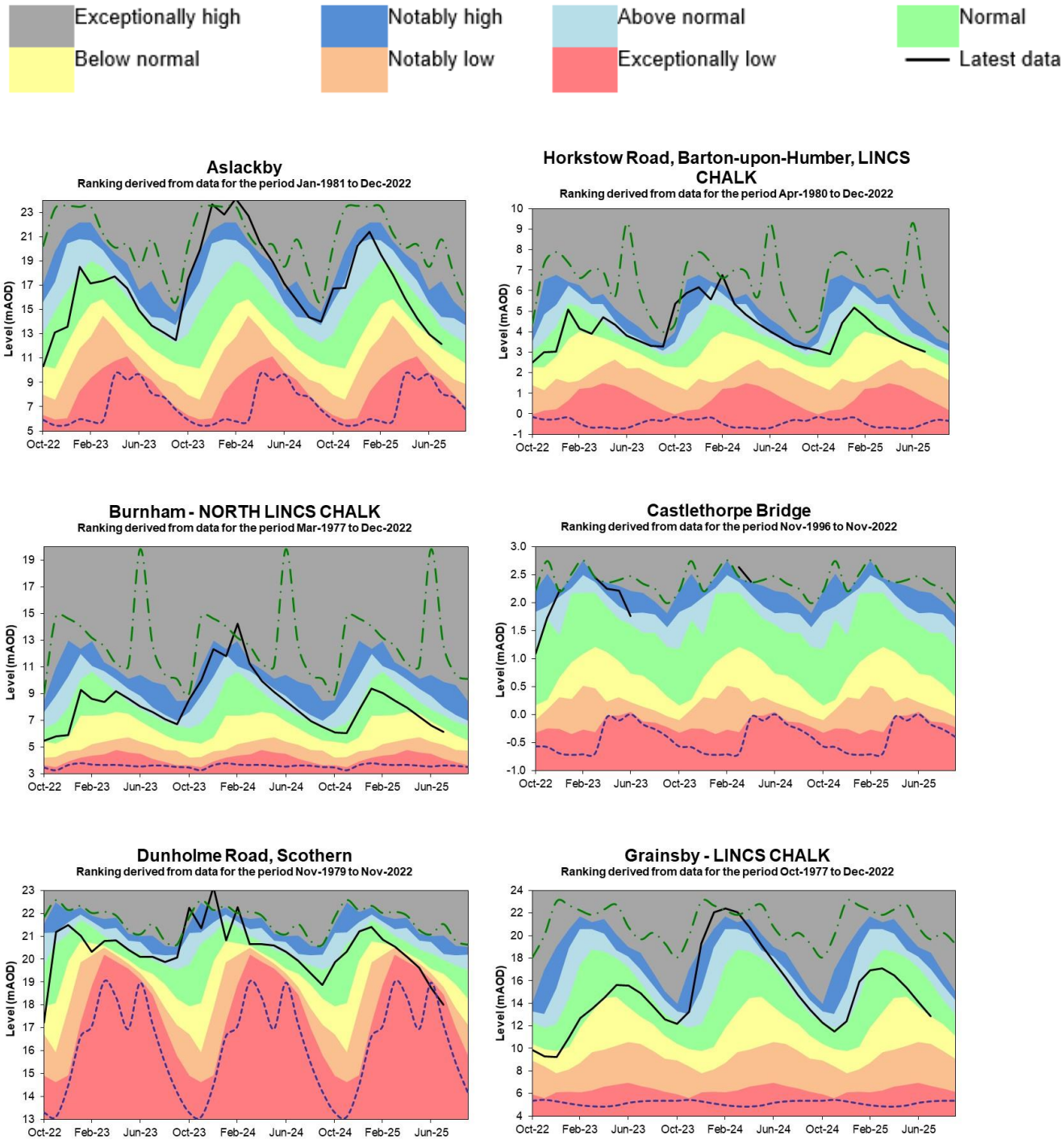
Figure 5.1: Groundwater levels for indicator sites at the end of July 2025, classed relative to an analysis of respective historic July levels. Table available in the appendices with detailed information.

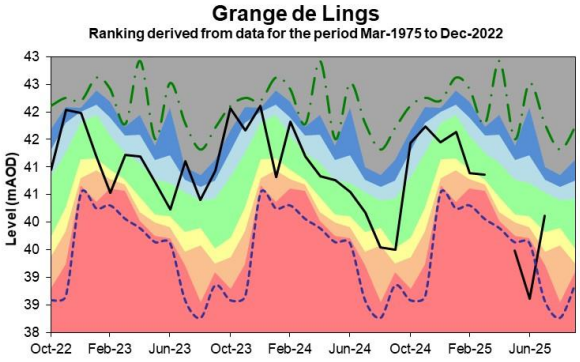


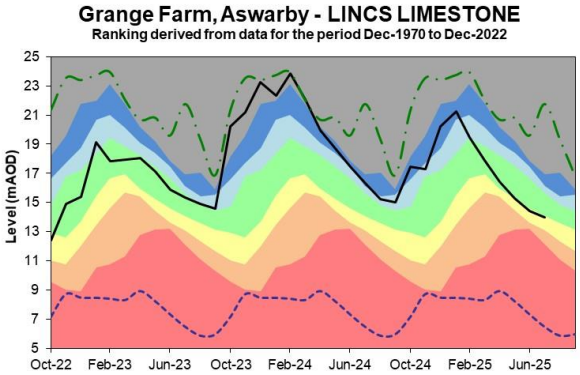
(Source: Environment Agency). Geological map reproduced with kind permission from UK Groundwater Forum, BGS copyright NERC. Crown copyright. All rights reserved. Environment Agency, 100024198, 2025.

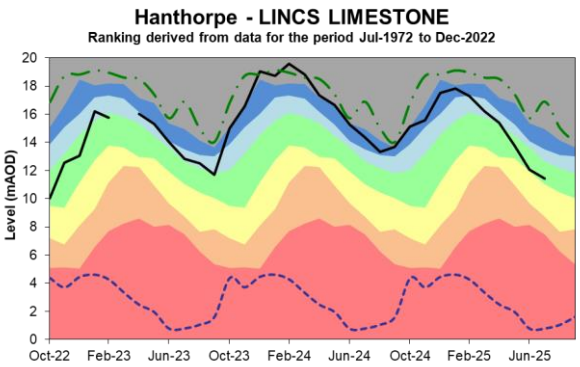
5.2 Groundwater level charts

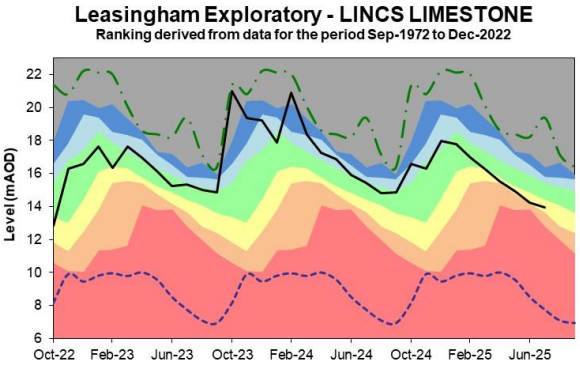
Figure 5.2: End of month groundwater levels at index groundwater level sites for major aquifers. 22 months compared to an analysis of historic end of month levels and long term maximum and minimum levels.







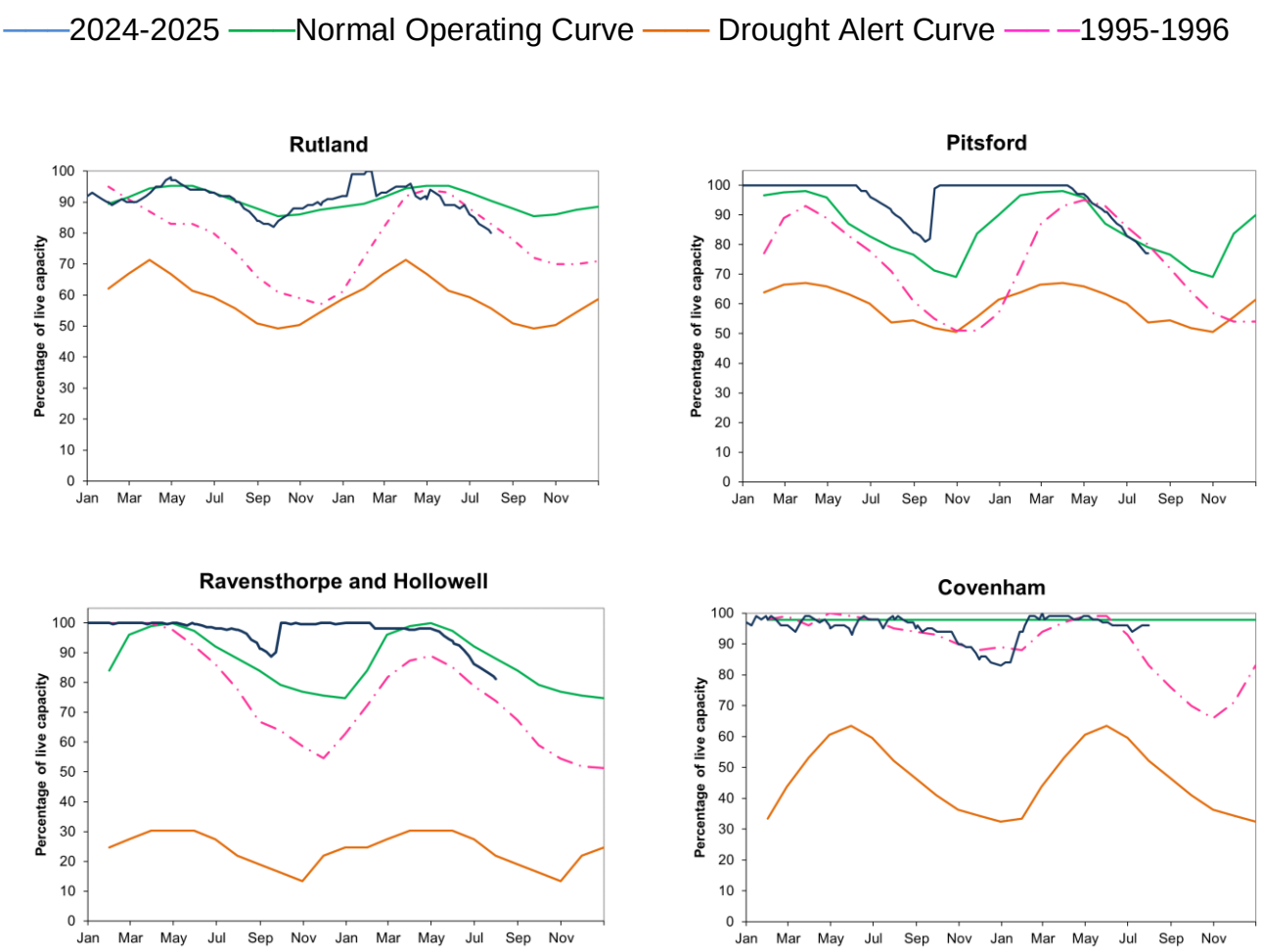




Source: Environment Agency, 2025.

6 Reservoir stocks

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

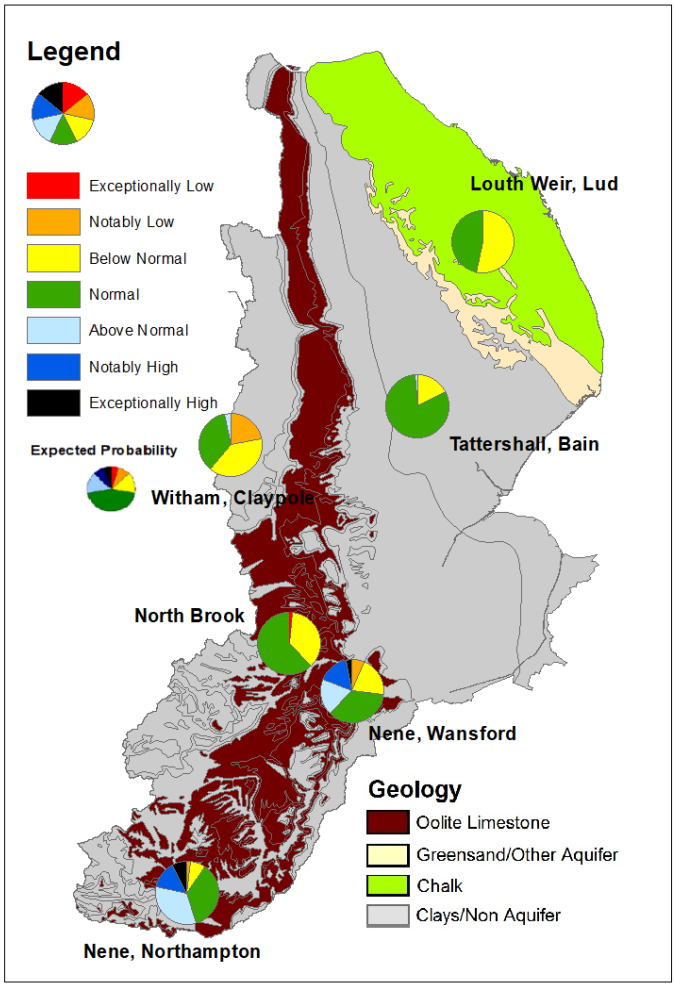


(Source: water companies).

7 Forward Look

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

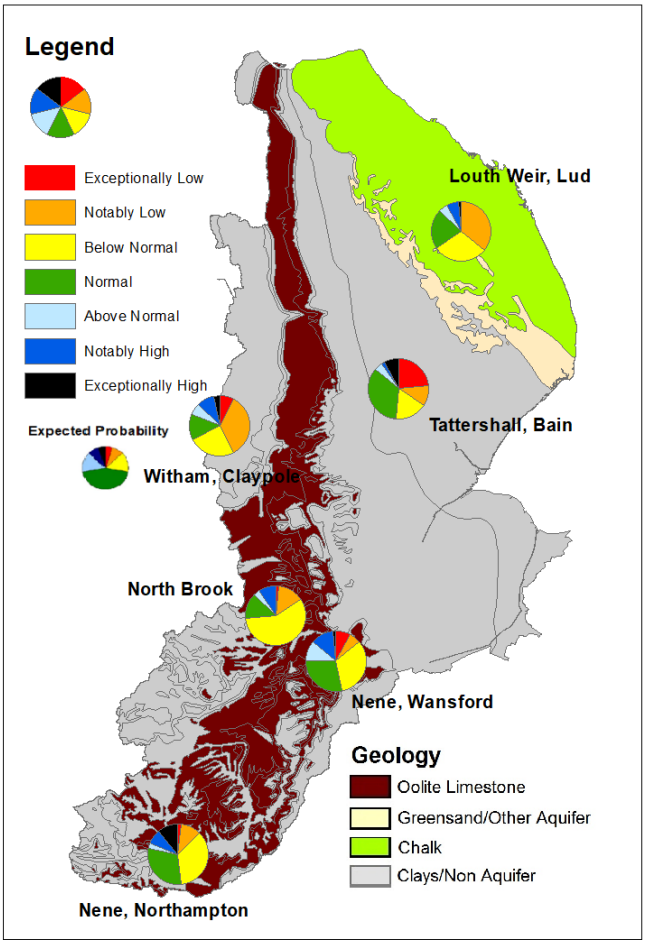
Table available in the appendices with detailed information. Exceptionally high or low levels are those which would typically occur 5% of the time within the historic record. Notably high or low levels are those which would typically occur 8% of the time. Above normal or below normal levels are those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

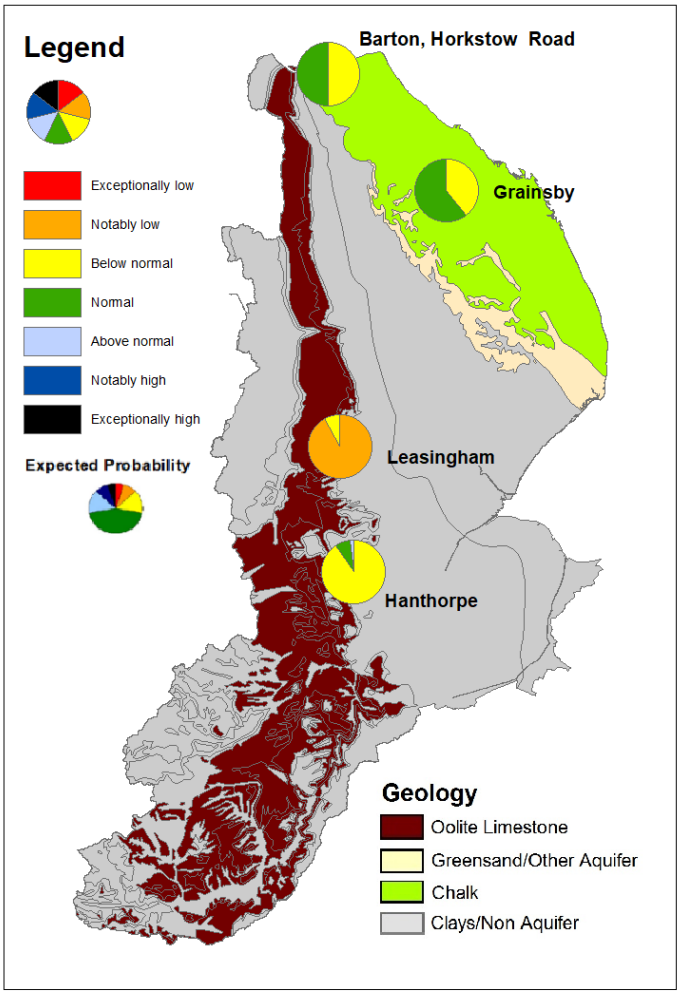
Table available in the appendices with detailed information. Exceptionally high or low levels are those which would typically occur 5% of the time within the historic record. Notably high or low levels are those which would typically occur 8% of the time. Above normal or below normal levels are those 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 December 2025

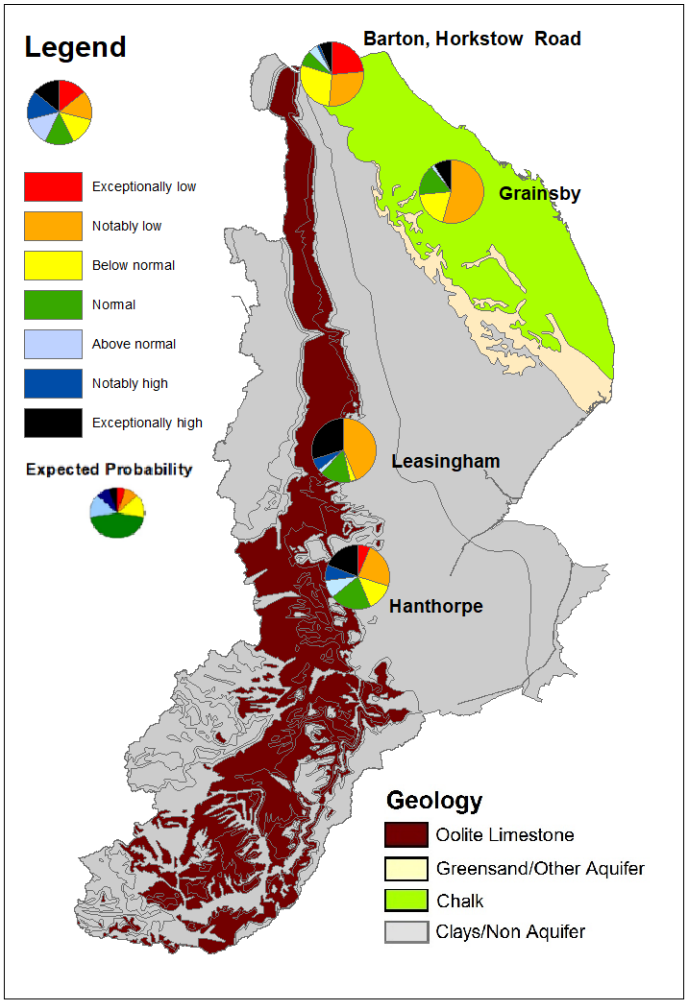
Table available in the appendices with detailed information. Exceptionally high or low levels are those which would typically occur 5% of the time within the historic record. Notably high or low levels are those which would typically occur 8% of the time. Above normal or below normal levels are those 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 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. All rights reserved. Environment Agency, 100026380, 2025

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) Geological map reproduced with kind permission from UK Groundwater Forum, BGS © NERC. Crown copyright. All rights reserved. Environment Agency, 100026380, 2025

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	Jul 2025 rainfall % of long term average 1991 to 2020	Jul 2025 band	May 2025 to July cumulative band	Feb 2025 to July cumulative band	Aug 2024 to July cumulative band
Louth Grimsby And Ancholme	110	Normal	Below normal	Exceptionally low	Below normal
Lower Welland And Nene	91	Normal	Below normal	Notably low	Normal
South Forty Foot And Hobhole	96	Normal	Normal	Notably low	Normal
Steeping Great Eau And Long Eau	83	Normal	Below normal	Exceptionally low	Below normal
Upper Welland And Nene	88	Normal	Notably low	Exceptionally low	Normal
Witham To Chapel Hill	108	Normal	Below normal	Exceptionally low	Below normal

9.2 River flows table

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

9.3 Groundwater table

Site name	Aquifer	End of Jul 2025 band	End of Jun 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	Normal	Normal
Grange De Lings	Grimsby Ancholme Louth Limestone	Normal	Exceptionally low
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
Exceptionally low	0.0	0.0	1.6
Notably low	1.6	6.3	0.0
Below normal	7.8	20.3	35.9
Normal	35.9	35.9	62.5
Above normal	32.8	18.8	0.0
Notably high	14.1	15.6	0.0
Exceptionally high	7.8	3.1	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
Exceptionally low	1.6	7.8	1.6
Notably low	10.9	6.3	14.1
Below normal	35.9	32.8	57.8
Normal	29.7	28.1	14.1
Above normal	3.1	10.9	3.1
Notably high	7.8	12.5	9.4
Exceptionally high	10.9	1.6	0.0

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
Exceptionally low	0.0	0.0	0.0
Notably low	0.0	0.0	0.0
Below normal	39.1	90.6	50.0
Normal	60.9	7.8	50.0
Above normal	0.0	1.6	0.0
Notably high	0.0	0.0	0.0
Exceptionally high	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
Exceptionally low	0.0	6.3	23.4
Notably low	54.7	23.4	28.1
Below normal	18.8	14.1	28.1
Normal	15.6	20.3	7.8
Above normal	1.6	9.4	4.7
Notably high	0.0	7.8	1.6
Exceptionally high	9.4	18.8	6.3