Monthly water situation report: East Anglia

1 Summary - February 2025

Rainfall across East Anglia through the month of February was approximately average for the time of year. Rainfall across the area ranged from 97% to 119% of the long term average. River flows in February were also close to the long term average for the time of year. The soil moisture deficit across the region was 10mm or less by the end of February. Groundwater levels remain healthy with most catchments at normal or above for the time of year. Public water supply reservoirs are all above their respective operating curves.

1.1 Rainfall

The East Anglia rainfall total for February was close to the long term average (LTA), with all catchments receiving normal rainfall totals for the time of year. The month began dry, with heaviest rainfall occurring towards the end of the month. North Norfolk was the only catchment to receive below average rainfall for the month. Overall, across the last 3 months the total rainfall has also been close to the LTA. Cumulative rainfall totals over the past 12 months have been above average in western East Anglia, with the eastern catchment totals being closer to the LTA.

1.2 Soil moisture deficit and recharge

Soil moisture deficits (SMD) across East Anglia were 10mm or less by the end of February. These SMD values are slightly below the LTA for February. The SMD reduced sharply during September 2024 in response to the high rainfall totals. With broadly average rainfall and declining evapotranspiration rates throughout autumn and winter, the SMD continued to decline through this period. This declining trend has levelled off, with the SMD expected to increase with the higher temperatures and longer day lengths of spring.

1.3 River flows

The majority of East Anglia river flow sites recorded flows close to their LTAs for February, with 3 sites recording above normal flows for the time of year. These elevated flows were in response to higher rainfall totals received within these catchments. The Rhee is a chalk-fed catchment which continues to record above normal flows, supported by the high groundwater levels in this area.

1.4 Groundwater levels

East Anglia groundwater levels at the end of February remain normal or higher for the time of year. The highest groundwater levels for the area were recorded to the south west, with Therfield continuing to record exceptionally high levels.

1.5 Reservoir stocks

Storage in East Anglia public water supply reservoirs is healthy for the time of year, with all reservoirs finishing February with a level above their respective normal operating curves.

1.6 Forward look

1.6.1 Probabilistic ensemble projections for river flows at key sites

River flow projections show a high probability of normal or higher flows by the end of March 2025. River flow projections for June 2025 predict a greater than 60% chance that all catchments will have normal or higher flows. Projections for the Ely Ouse catchment show a small chance of below normal flows by the end of June 2025.

1.6.2 Probabilistic ensemble projections for groundwater levels in key aquifers

Groundwater level projections show a high probability of normal or higher groundwater levels by the end of March 2025. The Therfield Rectory projection indicates levels will remain notably high to exceptionally high across March. Groundwater level projections for September 2025 show a high probability of normal or higher levels continuing into the autumn. The projections suggest that boreholes in the south of the area have a higher chance of above normal levels by the autumn compared to sites in the centre and north of the area.

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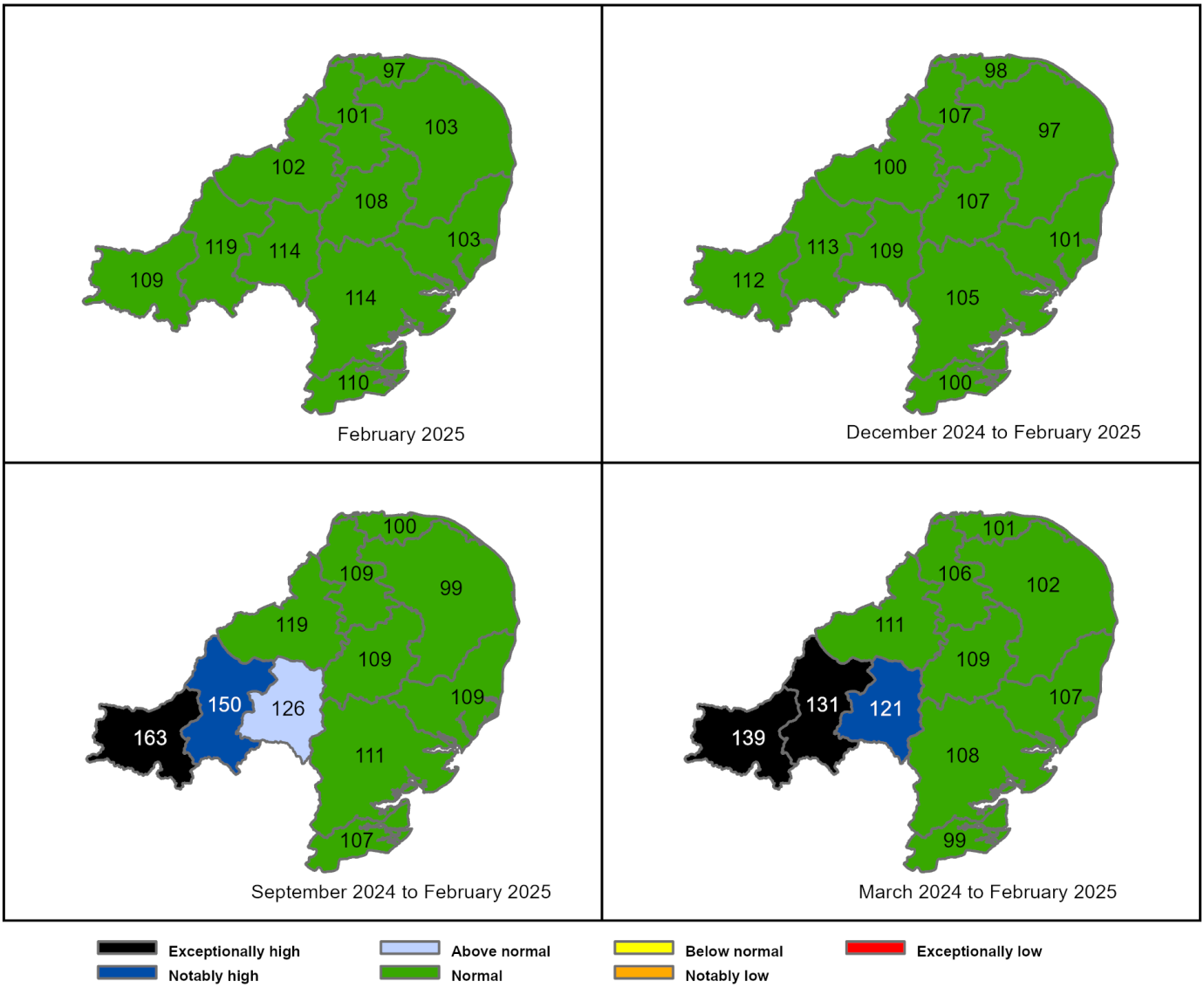
2 Rainfall

2.1 Rainfall map

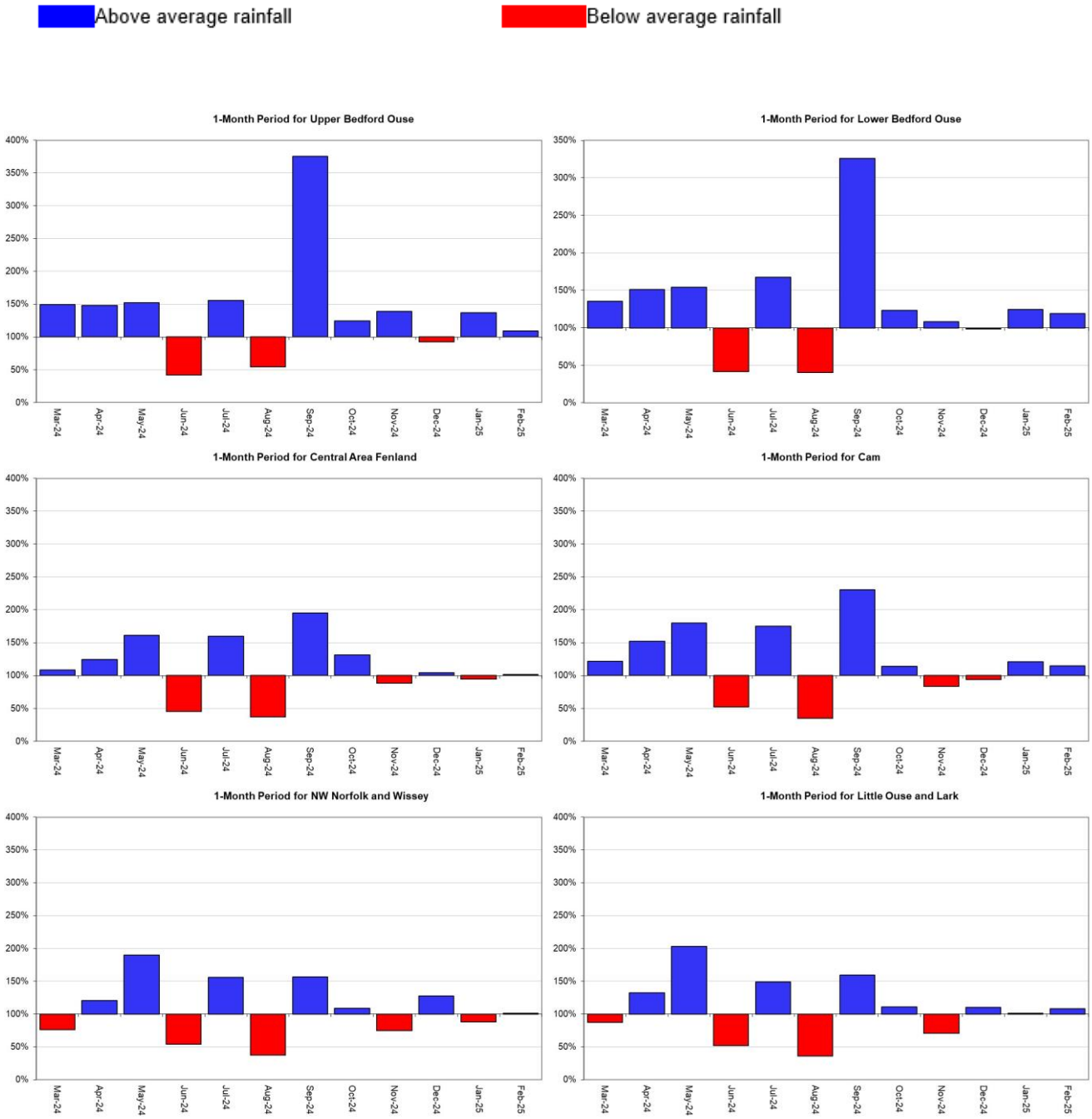
Figure 2.1: Total rainfall for hydrological areas across East Anglia, expressed as a percentage of long term average rainfall for the current month (up to 28 February 2025), the last 3 months, the last 6 months, and the last 12 months. Category classes are based on an analysis of respective historic totals. Table available in the appendices with detailed information.

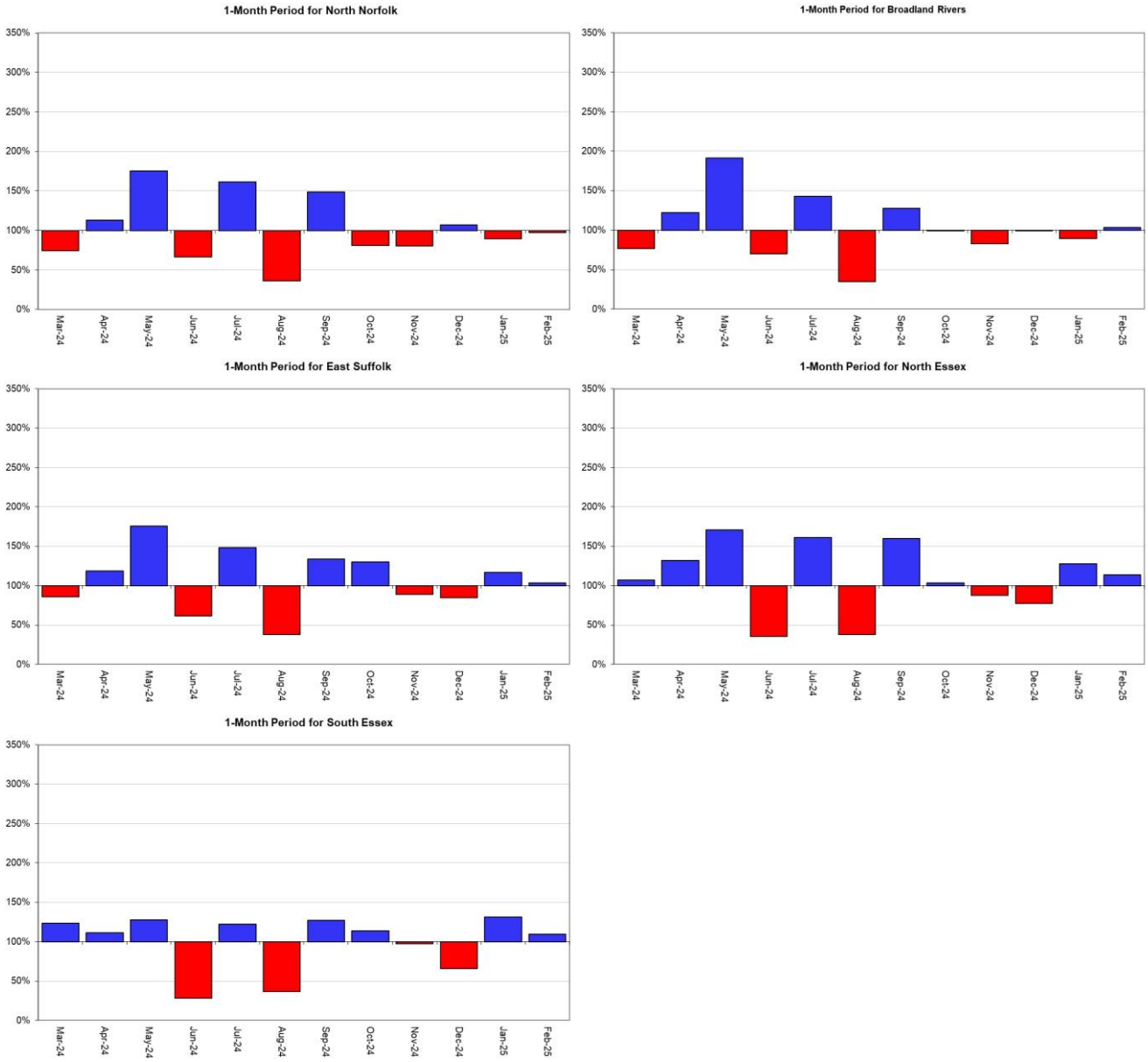


HadUK data based on the Met Office 1km gridded rainfall dataset derived from rain gauges (Source: Met Office. Crown copyright, 2025). Provisional data based on Environment Agency 1km gridded rainfall dataset derived from Environment Agency intensity rain gauges. Crown copyright. All rights reserved.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

2.2 Rainfall charts

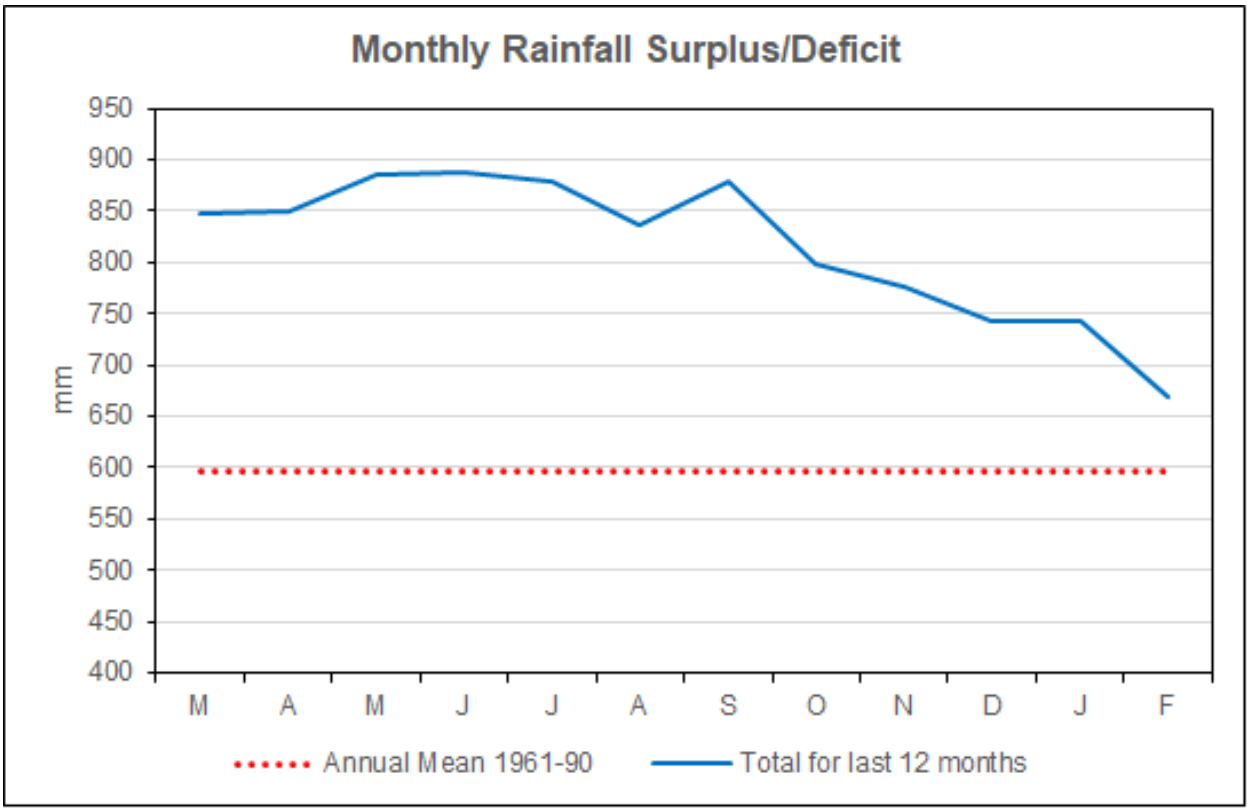
Figure 2.2: Monthly rainfall totals for the past 12 months as a percentage of the 1961 to 1990 long term average for each region and for England.





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

2.3 Monthly rainfall surplus deficit chart



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

3 Soil moisture deficit

3.1 Soil moisture deficit map

Figure 3.1.1: Soil moisture deficit values for 28 February 2025. Values based on the weekly MORECS data for real land use.

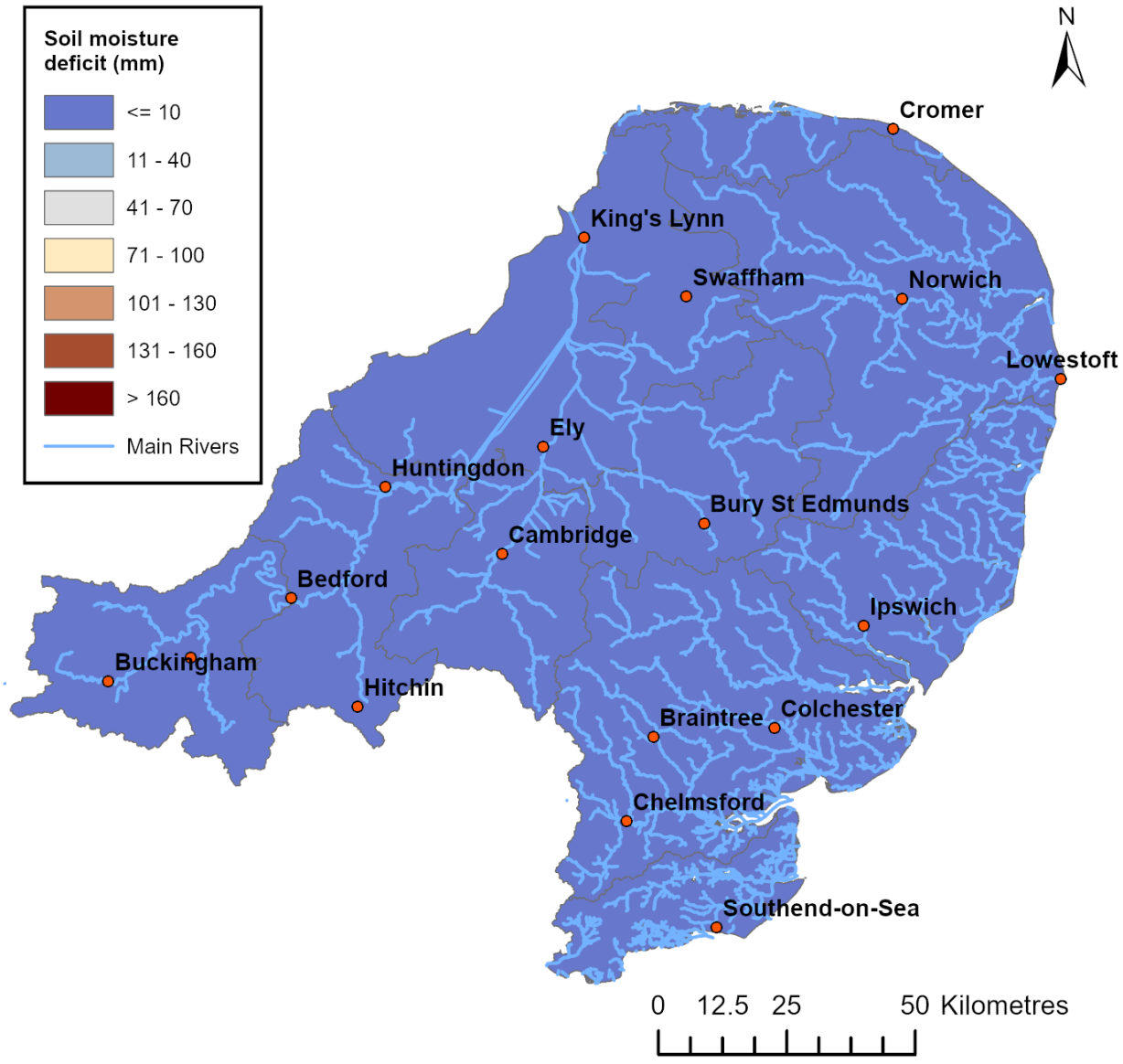
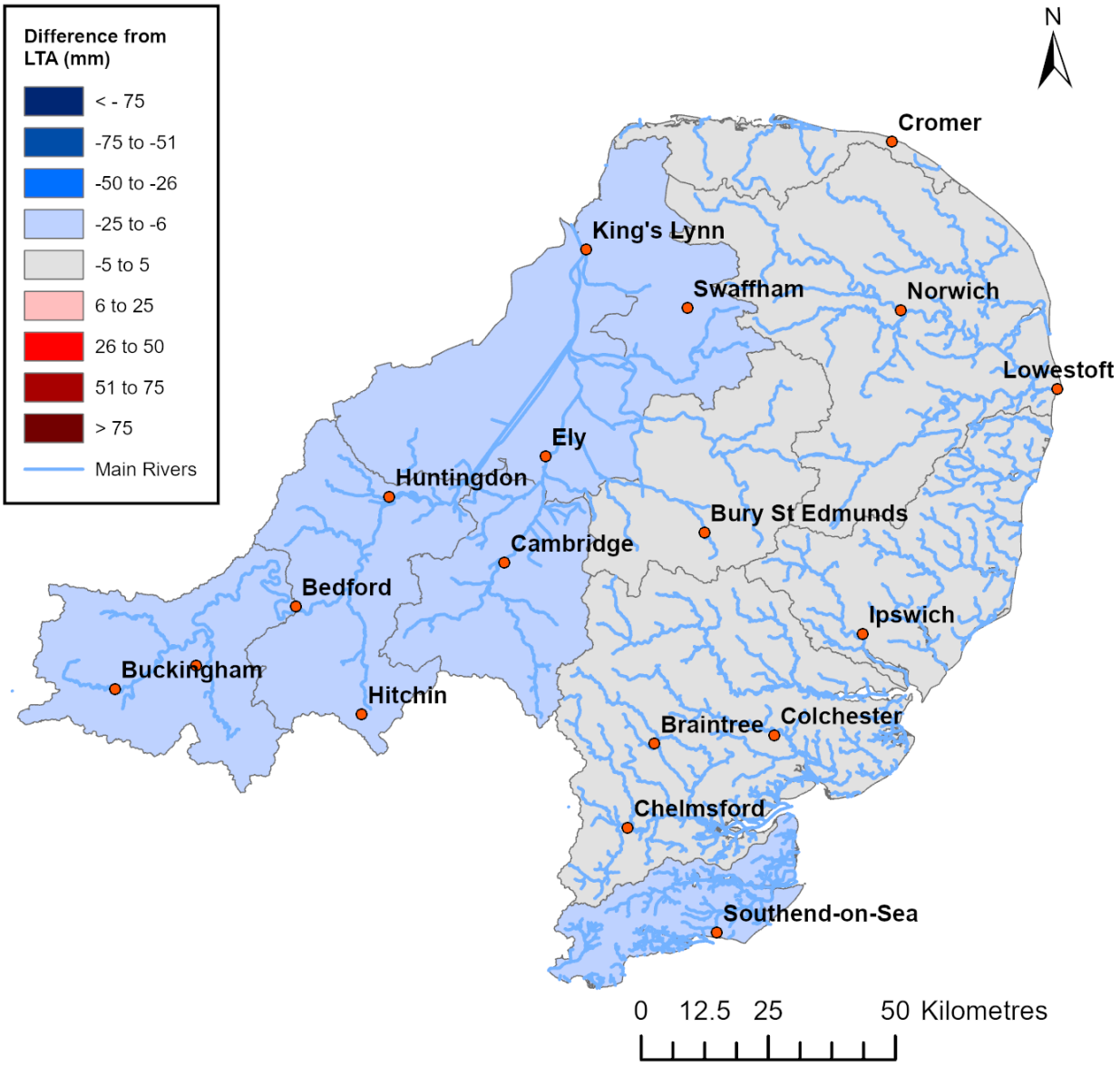
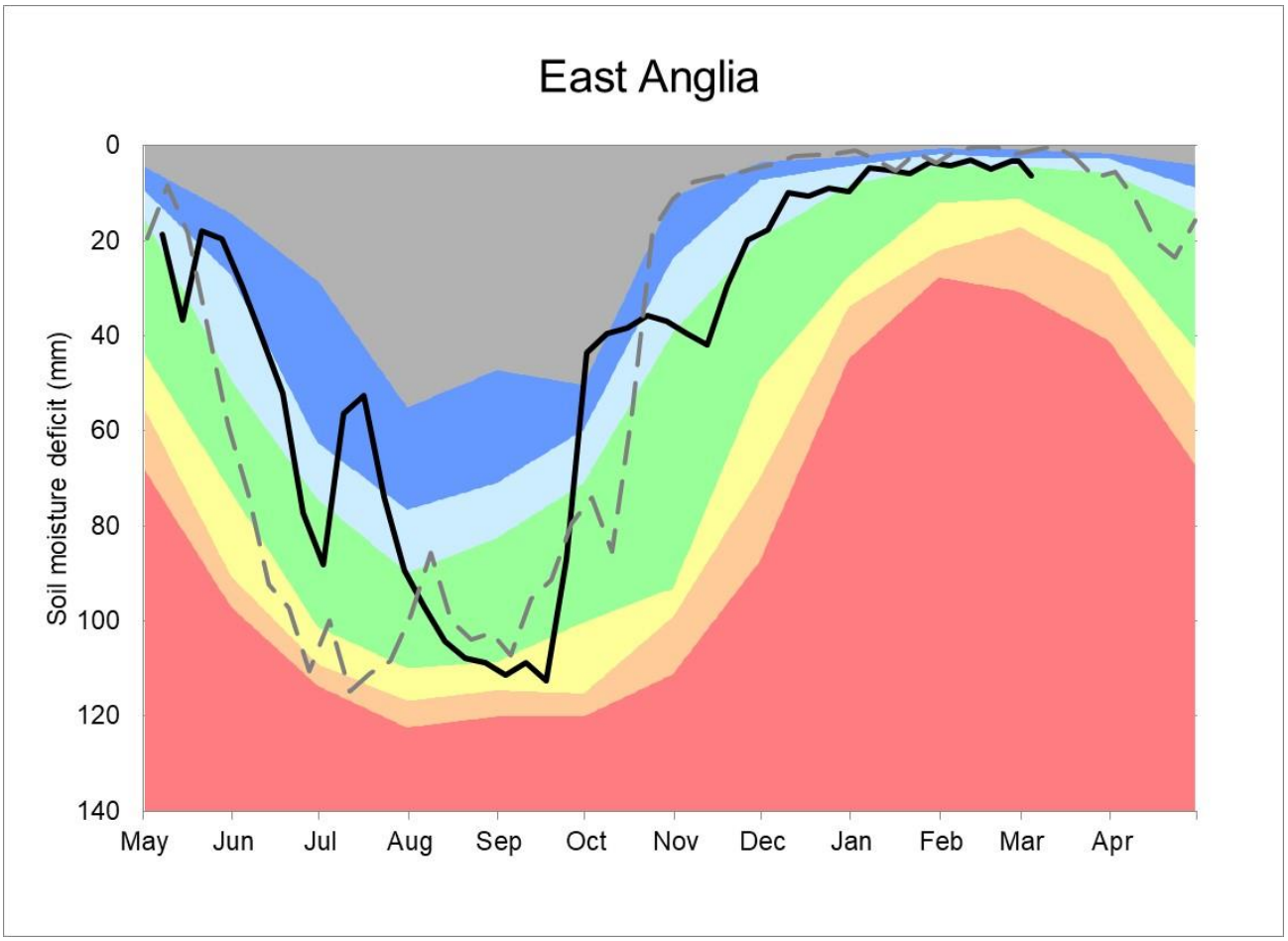


Figure 3.1.2: Soil moisture deficit difference from long-term average for 28 February 2025. Values based on the weekly MORECS data for real land use.



3.2 Soil moisture deficit charts

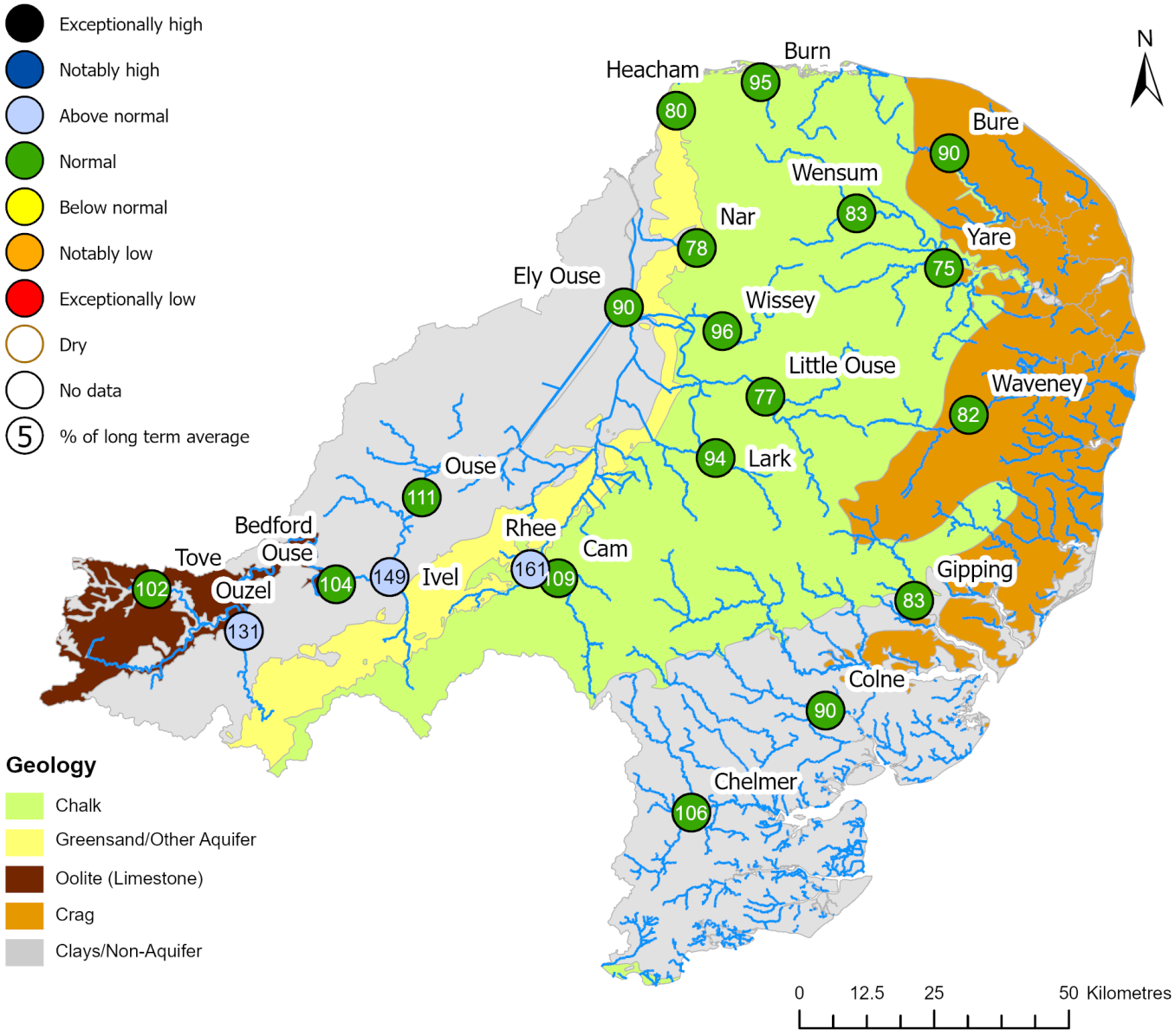
Figure 3.2: Latest soil moisture deficit compared to an analysis of historic 1961 to 1990 long term data set. Weekly MORECS data for real land use.



4 River flows

4.1 River flows map

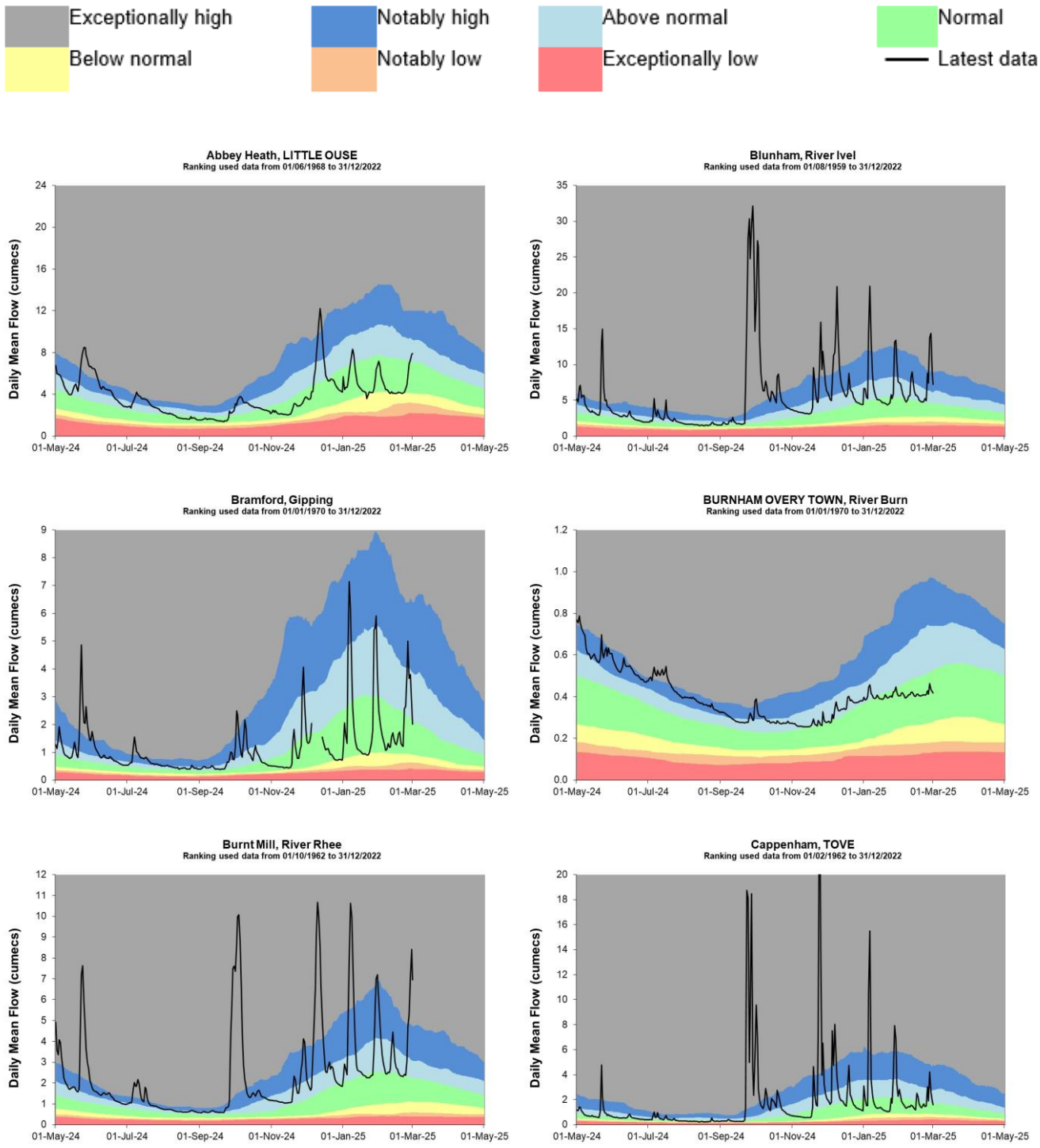
Figure 4.1: Monthly mean river flow for indicator sites for February 2025, expressed as a percentage of the respective long term average and classed relative to an analysis of historic February monthly means Table available in the appendices with detailed information.

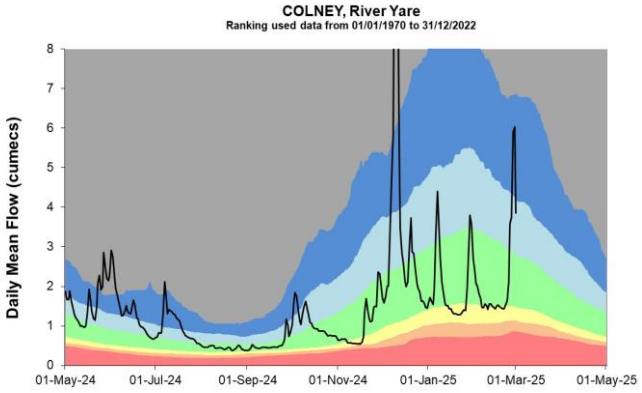


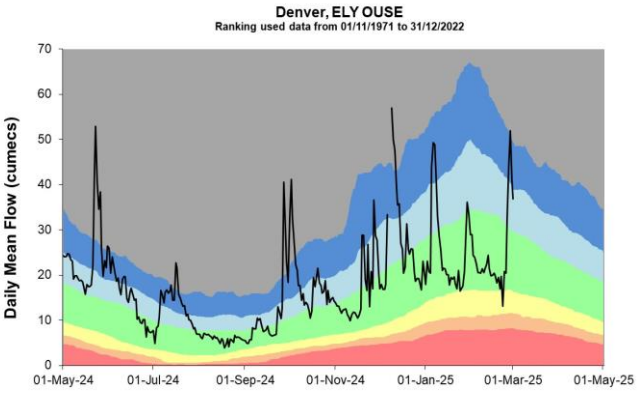
(Source: Environment Agency). Geological map reproduced with kind permission from UK Groundwater Forum, BGS copyright NERC. Crown copyright. All rights reserved. Environment Agency, 100024198, 2025.

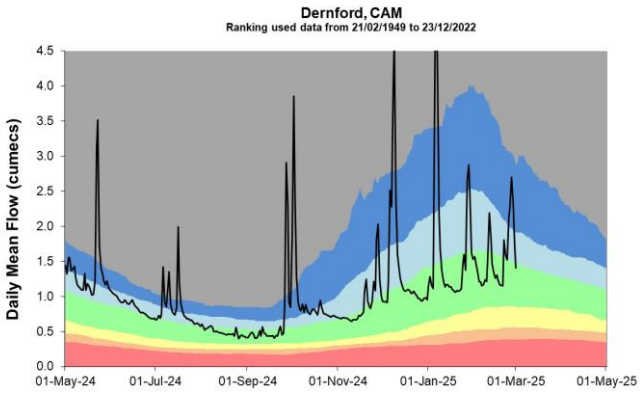
4.2 River flow charts

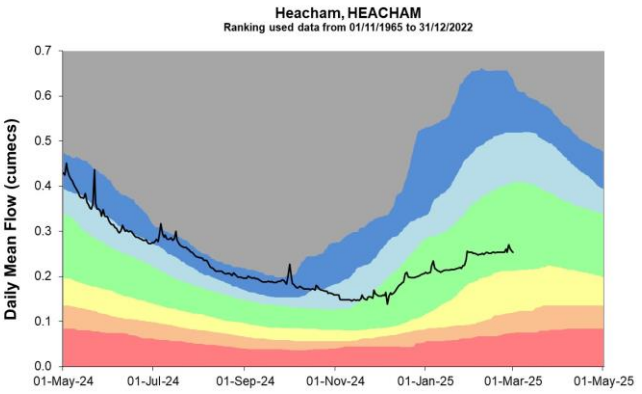
Figure 4.2: Daily mean river flow for index sites over the past year, compared to an analysis of historic daily mean flows, and long term maximum and minimum flows.

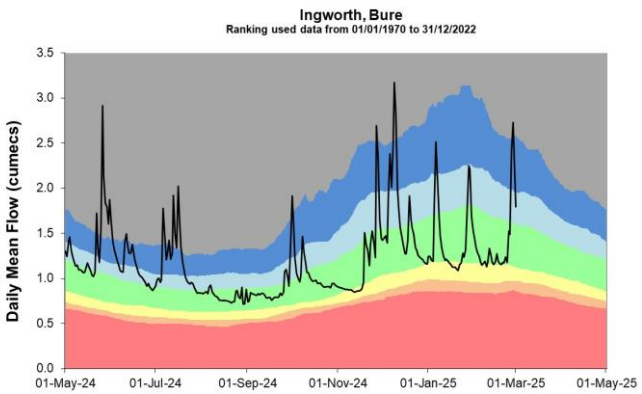


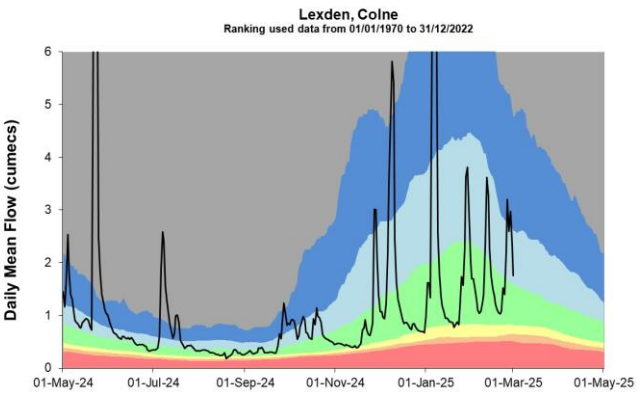

COLNEY, River Yare
Ranking used data from 01/01/1970 to 31/12/2022
Daily Mean Flow (cumecs)
0
1
2
3
4
5
6
7
8
01-May-24
01-Jul-24
01-Sep-24
01-Nov-24
01-Jan-25
01-Mar-25
01-May-25

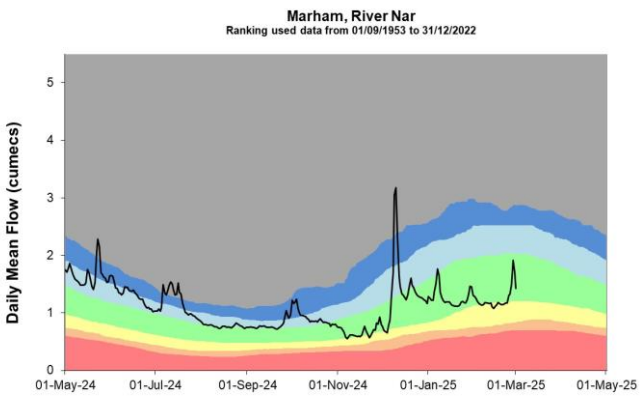

Denver, ELY OUSE
Ranking used data from 01/11/1971 to 31/12/2022
Daily Mean Flow (cumecs)
0
10
20
30
40
50
60
70
01-May-24
01-Jul-24
01-Sep-24
01-Nov-24
01-Jan-25
01-Mar-25
01-May-25

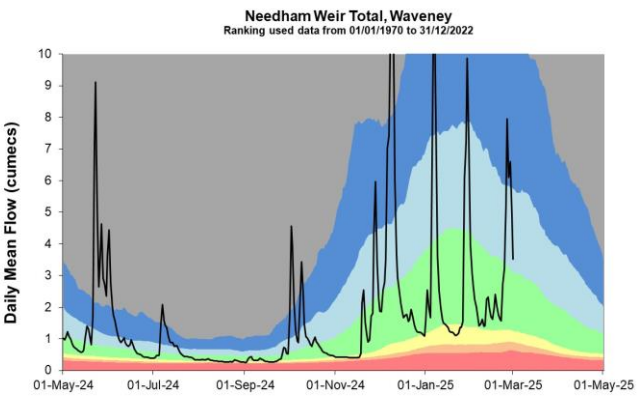

Dernford, CAM
Ranking used data from 21/02/1949 to 23/12/2022
Daily Mean Flow (cumecs)
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3.5
4.0
4.5
01-May-24
01-Jul-24
01-Sep-24
01-Nov-24
01-Jan-25
01-Mar-25
01-May-25

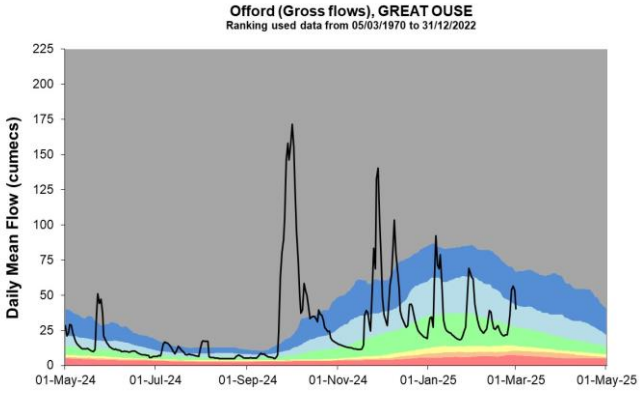

Heacham, HEACHAM
Ranking used data from 01/11/1965 to 31/12/2022
Daily Mean Flow (cumecs)
0.0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
01-May-24
01-Jul-24
01-Sep-24
01-Nov-24
01-Jan-25
01-Mar-25
01-May-25

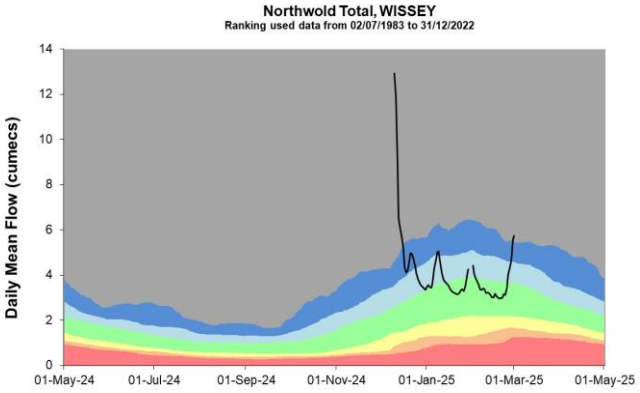

Ingworth, Bure
Ranking used data from 01/01/1970 to 31/12/2022
Daily Mean Flow (cumecs)
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3.5
01-May-24
01-Jul-24
01-Sep-24
01-Nov-24
01-Jan-25
01-Mar-25
01-May-25

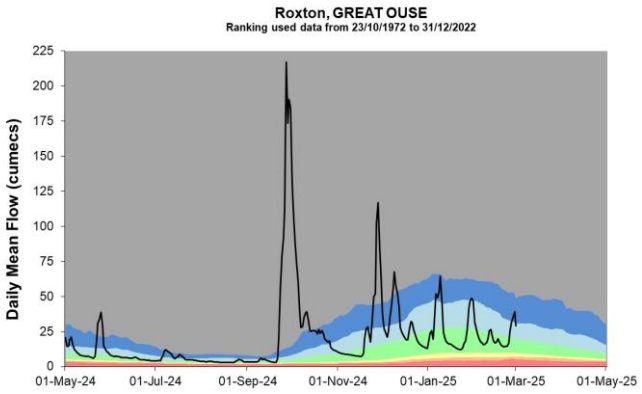

Lexden, Colne
Ranking used data from 01/01/1970 to 31/12/2022
Daily Mean Flow (cumecs)
0
1
2
3
4
5
6
01-May-24
01-Jul-24
01-Sep-24
01-Nov-24
01-Jan-25
01-Mar-25
01-May-25

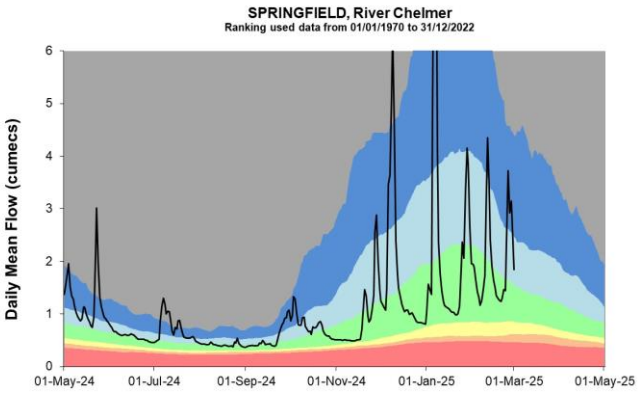

Marham, River Nar
Ranking used data from 01/09/1953 to 31/12/2022
Daily Mean Flow (cumecs)
0
1
2
3
4
5
01-May-24
01-Jul-24
01-Sep-24
01-Nov-24
01-Jan-25
01-Mar-25
01-May-25

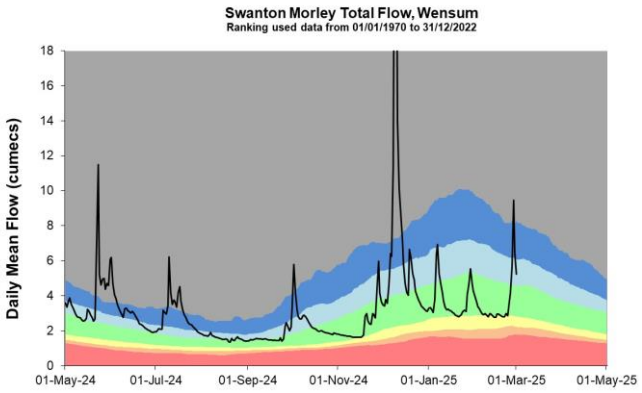

Needham Weir Total, Waveney
Ranking used data from 01/01/1970 to 31/12/2022
Daily Mean Flow (cumecs)
0
1
2
3
4
5
6
7
8
9
10
01-May-24
01-Jul-24
01-Sep-24
01-Nov-24
01-Jan-25
01-Mar-25
01-May-25

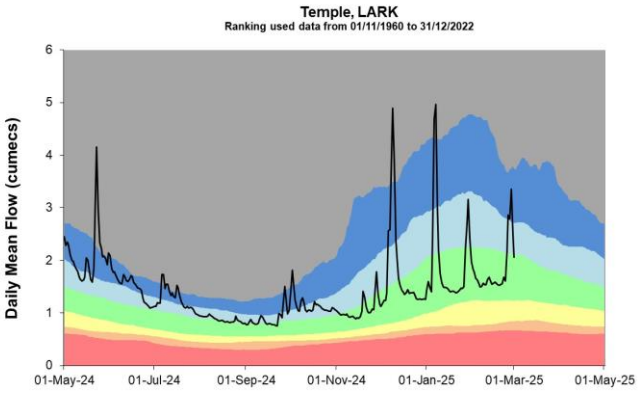


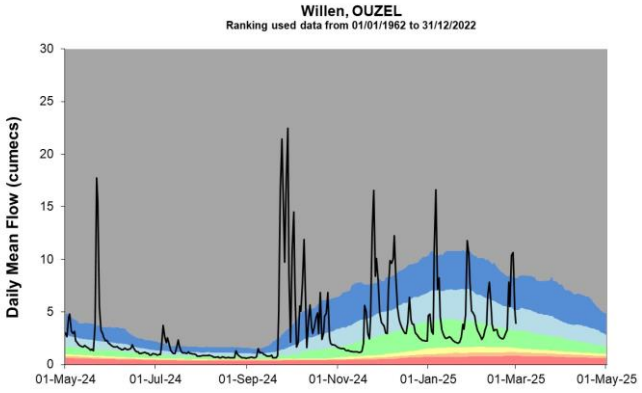










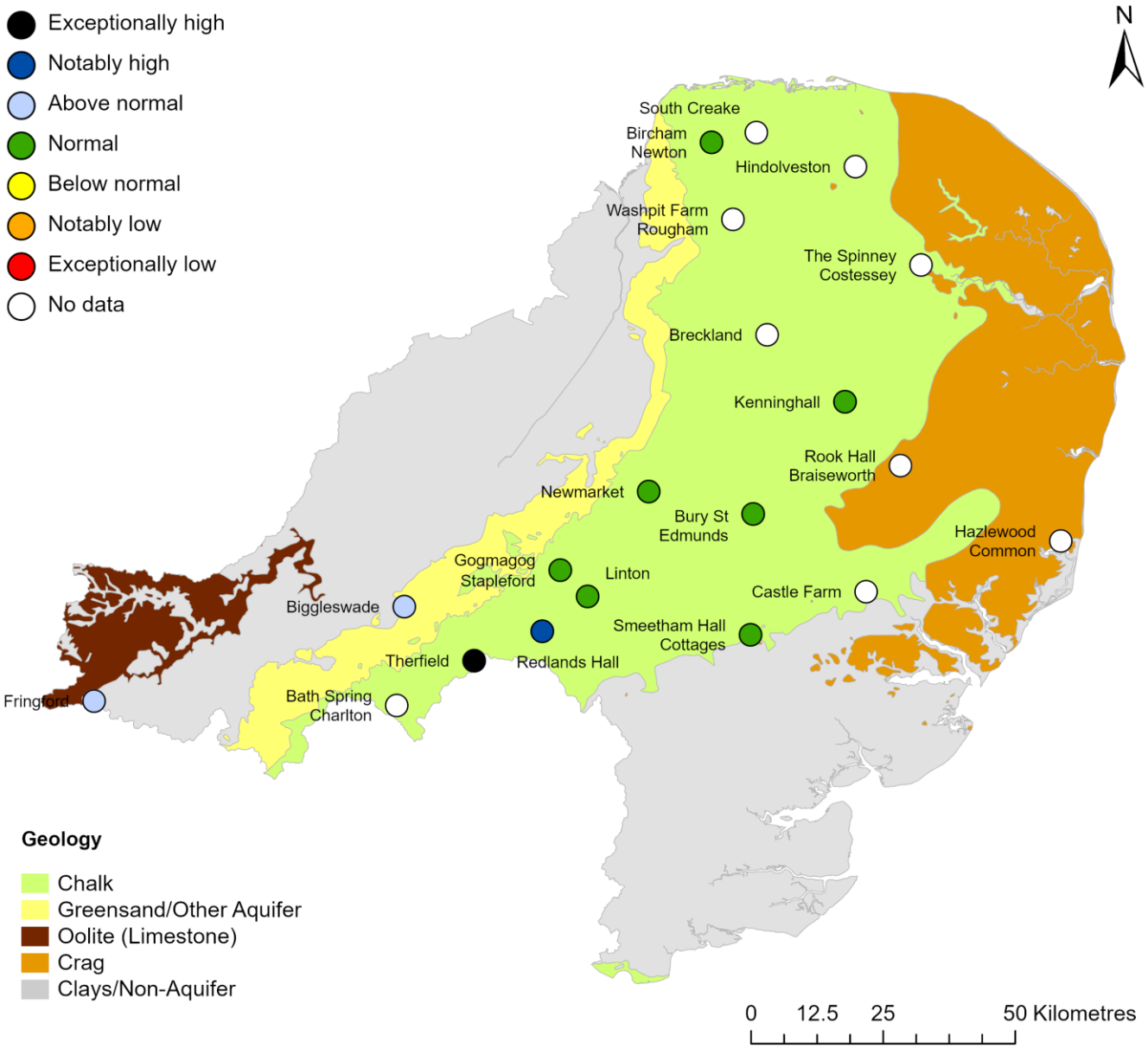


Source: Environment Agency, 2025.

5 Groundwater levels

5.1 Groundwater levels map

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



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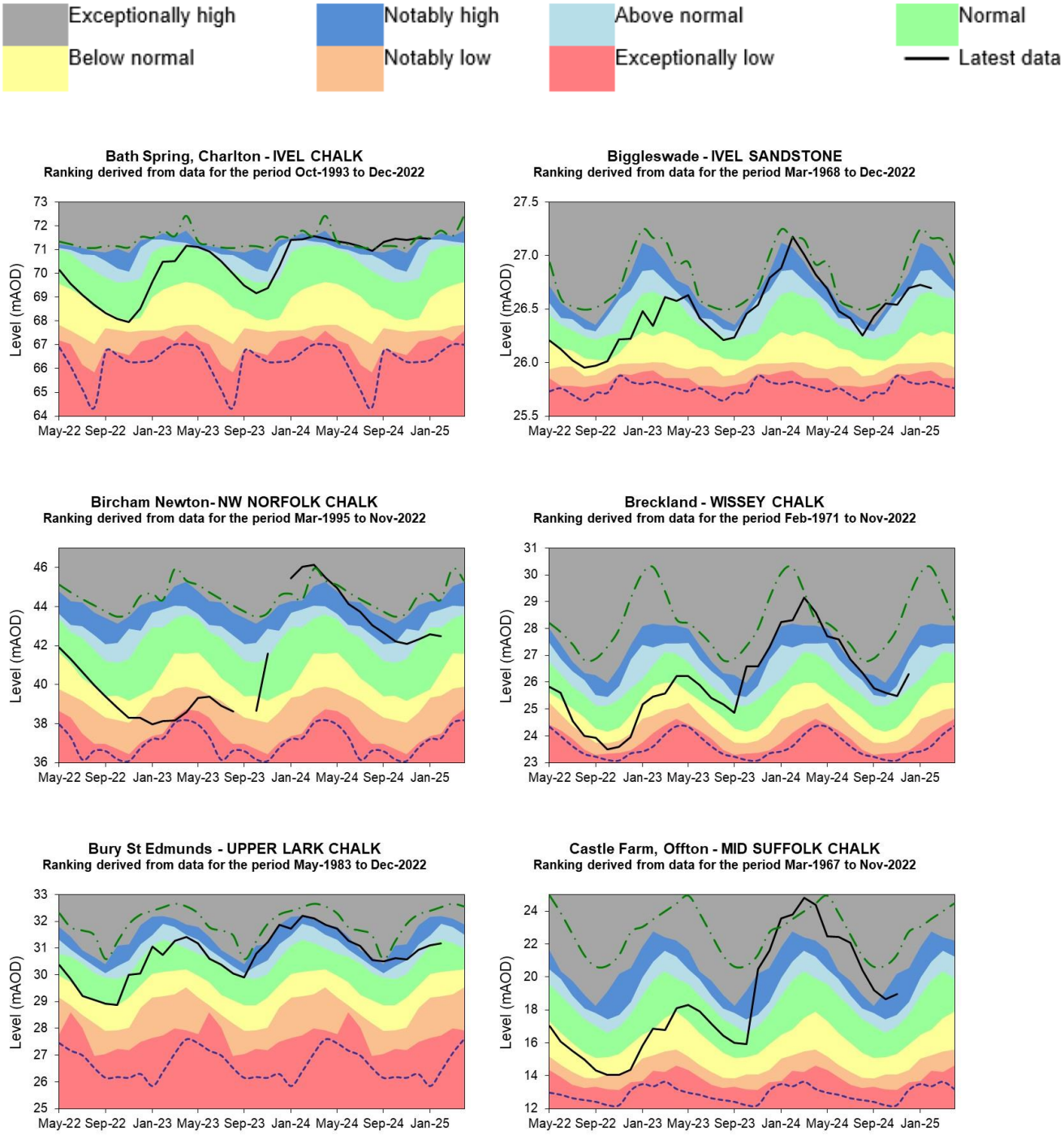
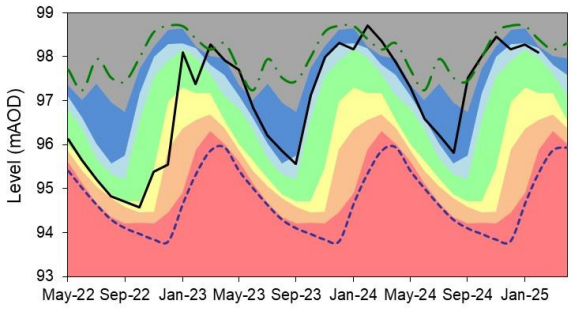
5.2 Groundwater level charts

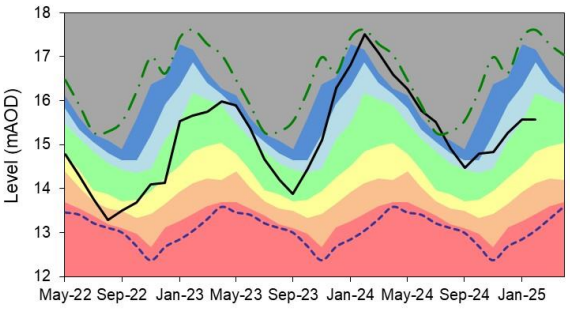
Figure 5.2: End of month groundwater levels at index groundwater level sites for major aquifers. 22 months compared to an analysis of historic end of month levels and long term maximum and minimum levels.



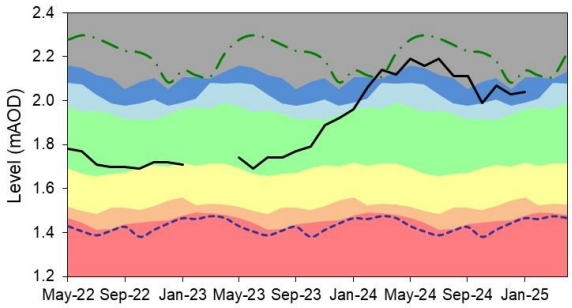
Fringford - GREAT OOLITE
Ranking derived from data for the period Sep-1980 to Dec-2022



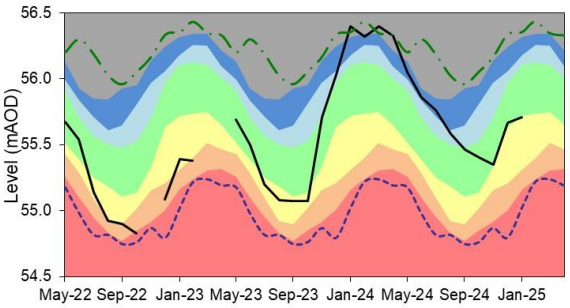
Gog Magog, Stapleford - CAM CHALK
Ranking derived from data for the period Jan-1980 to Dec-2022



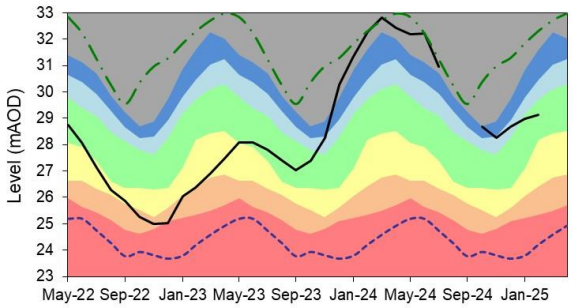
Hazlewood Common - SUFFOLK CRAG
Ranking derived from data for the period Oct-1988 to Nov-2022



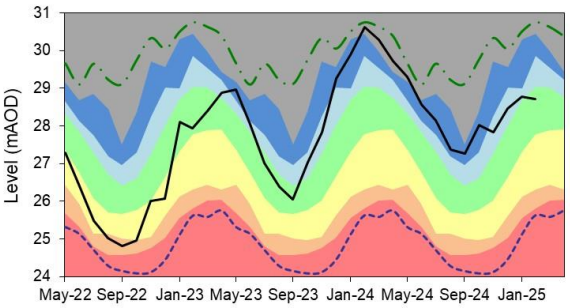
Hindolveston - NORFOLK CHALK
Ranking derived from data for the period Sep-1984 to Nov-2022



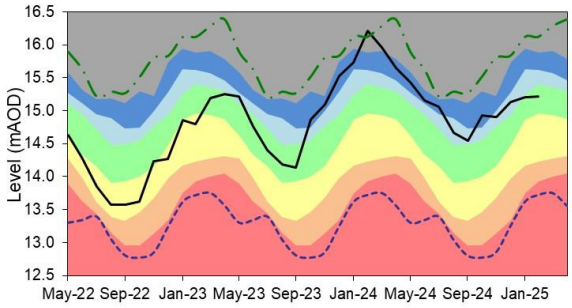
Kenninghall - LITTLE OUSE CHALK
Ranking derived from data for the period Aug-1973 to Dec-2022



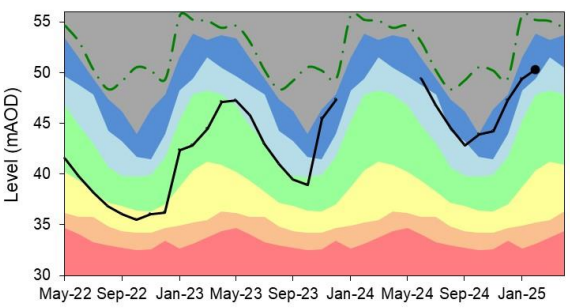
Linton- CAM CHALK
Ranking derived from data for the period Jan-1980 to Dec-2022

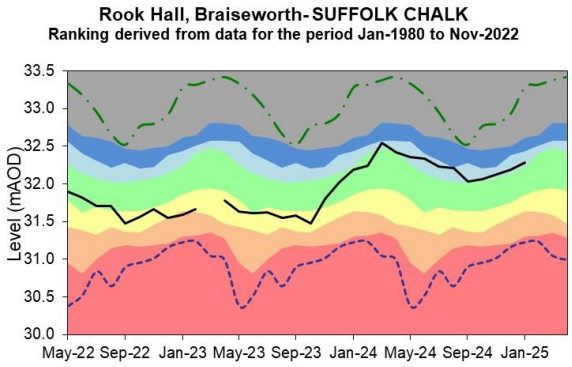


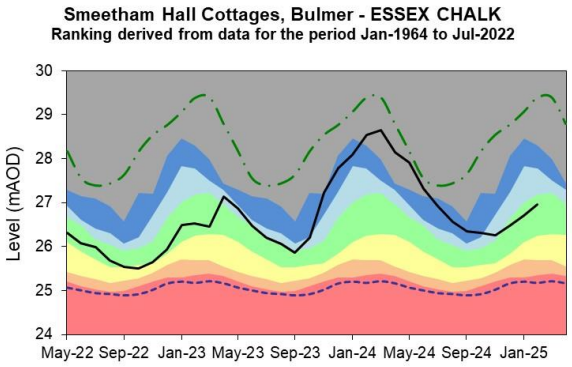
Newmarket - SNAIL CHALK
Ranking derived from data for the period Feb-1983 to Dec-2022

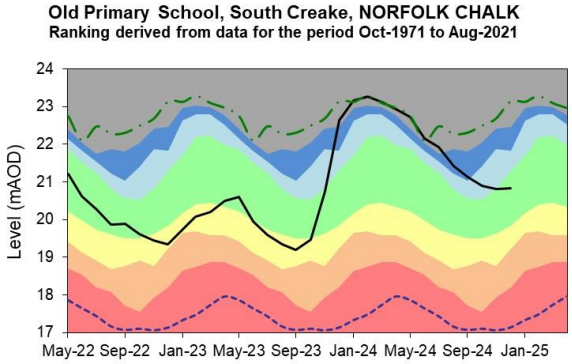


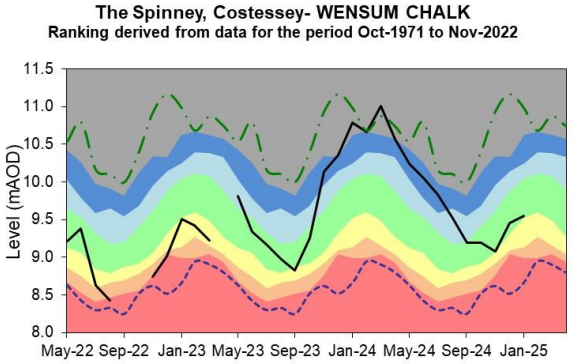
Redlands Hall, Ickleton - CAM CHALK
Ranking derived from data for the period Aug-1963 to Dec-2022

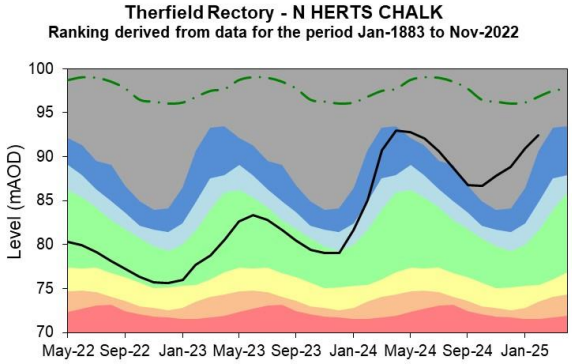


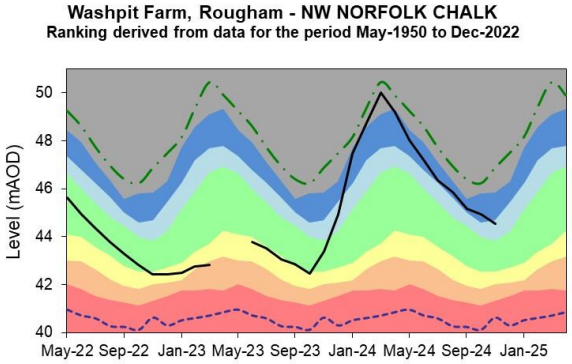








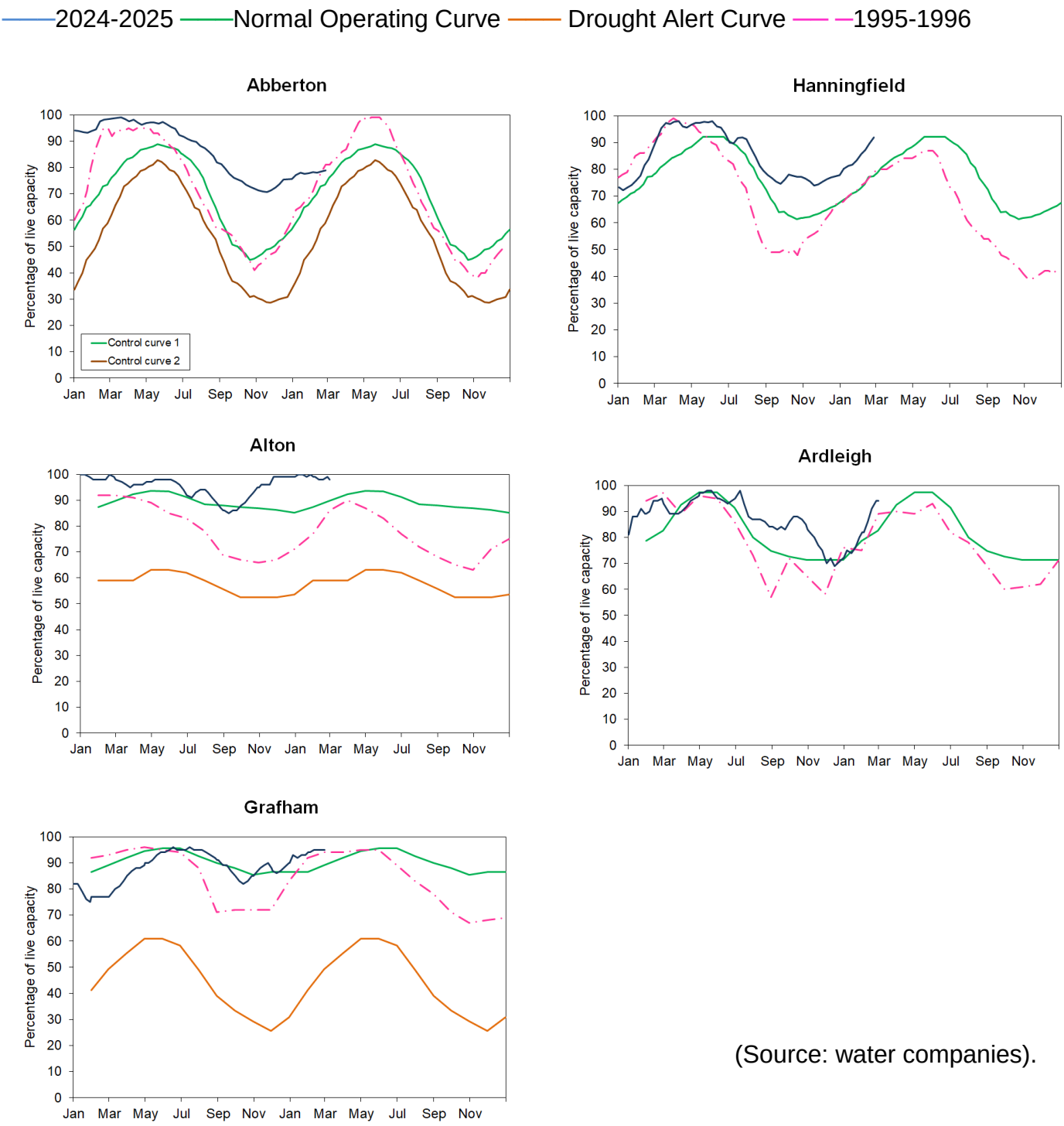




Source: Environment Agency, 2025.

6 Reservoir stocks

Figure 6.1: End of month regional reservoir stocks compared to the normal operating curve, drought curve and dry 1995-1996 stocks. Note: Historic records of individual reservoirs and reservoir groups making up the regional values vary in length.

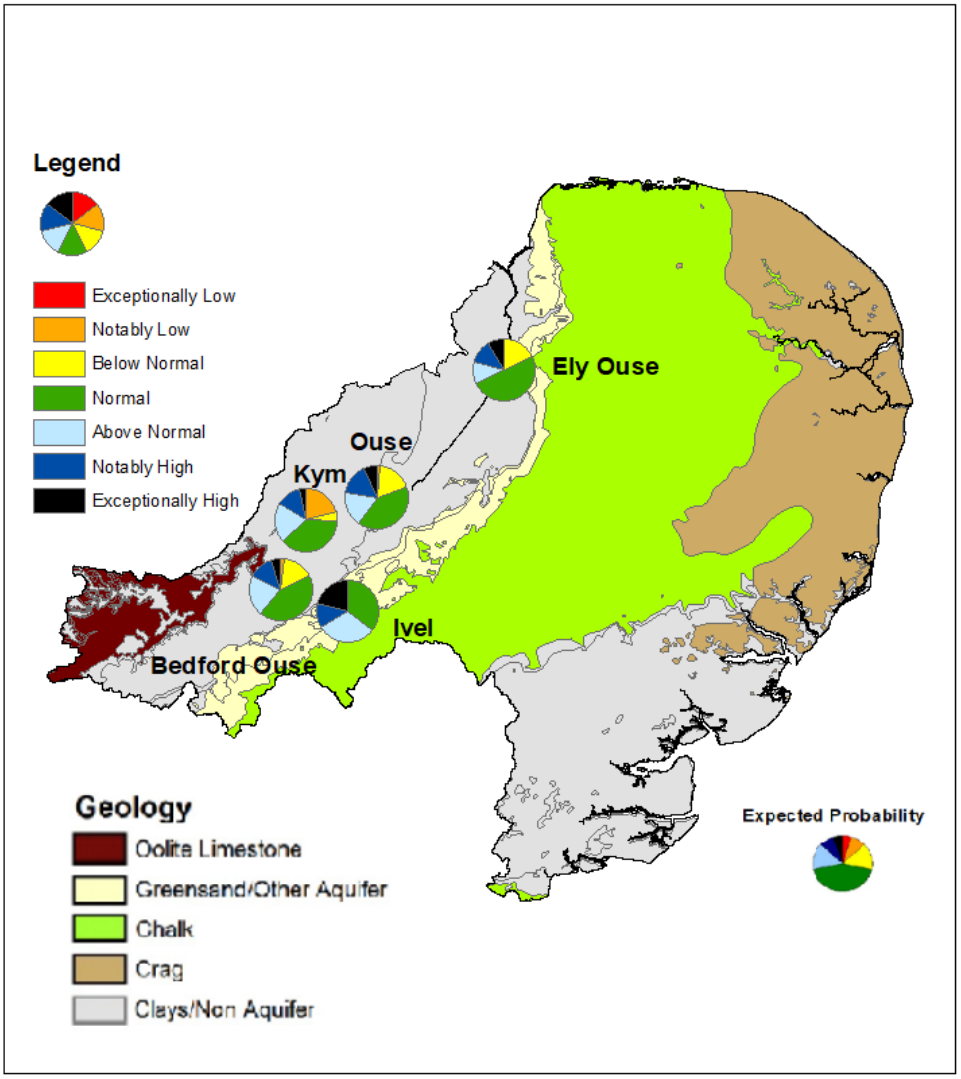


(Source: water companies).

7 Forward look

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

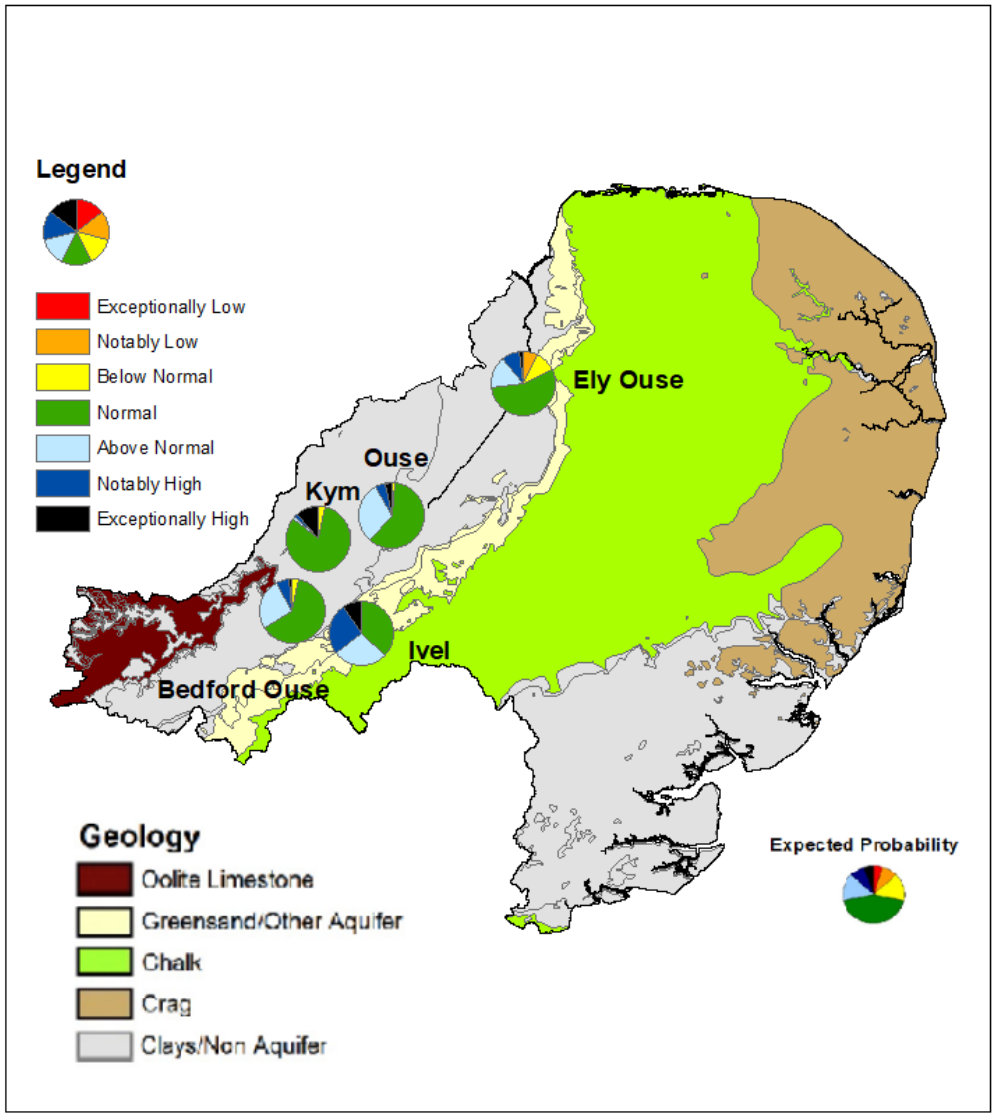
Table available in the appendices with detailed information. Exceptionally high or low levels are those which would typically occur 5% of the time within the historic record. Notably high or low levels are those which would typically occur 8% of the time. Above normal or below normal levels are those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

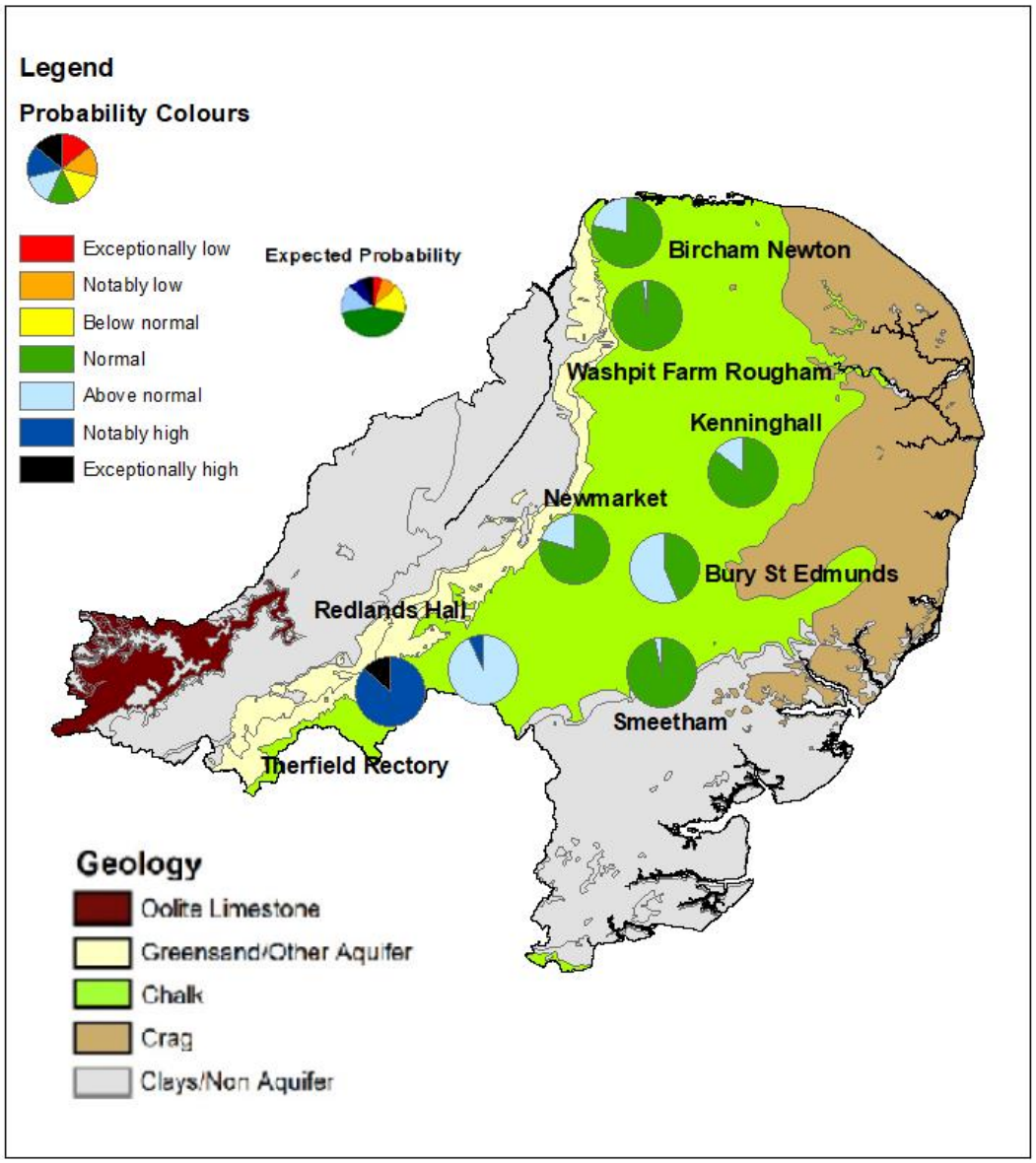
Table available in the appendices with detailed information. Exceptionally high or low levels are those which would typically occur 5% of the time within the historic record. Notably high or low levels are those which would typically occur 8% of the time. Above normal or below normal levels are those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

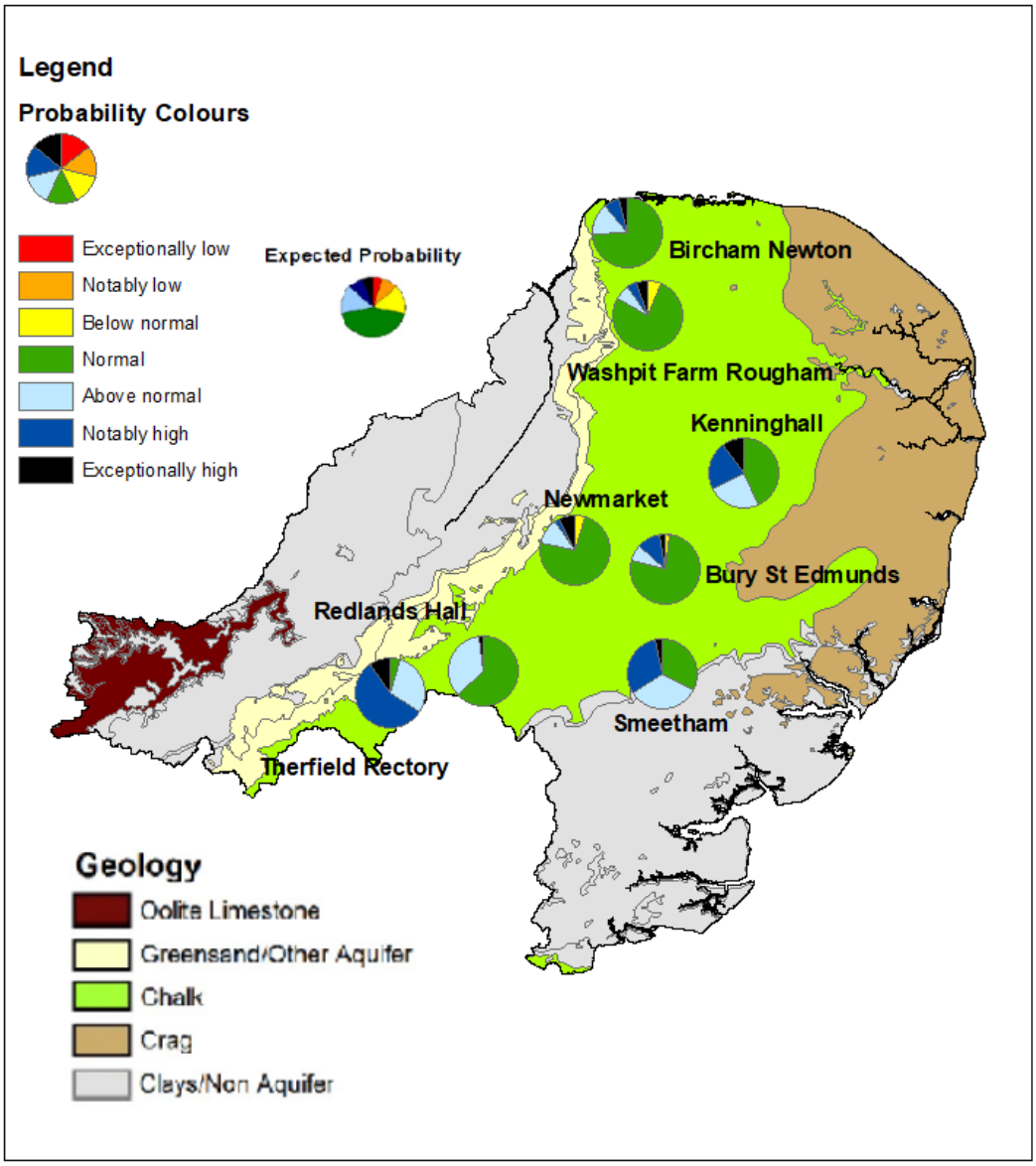
Table available in the appendices with detailed information. Exceptionally high or low levels are those which would typically occur 5% of the time within the historic record. Notably high or low levels are those which would typically occur 8% of the time. Above normal or below normal levels are those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

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 1961 to 1990. 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	Feb 2025 rainfall % of long term average 1961 to 1990	Feb 2025 band	Dec 2024 to February cumulative band	Sep 2024 to February cumulative band	Mar 2024 to February cumulative band
Broadland Rivers	103	Normal	Normal	Normal	Normal
Cam	114	Normal	Normal	Above normal	Notably high
Central Area Fenland	102	Normal	Normal	Normal	Normal
East Suffolk	103	Normal	Normal	Normal	Normal
Little Ouse And Lark	108	Normal	Normal	Normal	Normal
Lower Bedford Ouse	119	Normal	Normal	Notably high	Exceptionally high
North Essex	114	Normal	Normal	Normal	Normal
North Norfolk	97	Normal	Normal	Normal	Normal
Nw Norfolk And Wissey	101	Normal	Normal	Normal	Normal
South Essex	110	Normal	Normal	Normal	Normal

Upper Bedford Ouse	109	Normal	Normal	Exceptionally high	Exceptionally high

9.2 River flows table

Site name	River	Catchment	Feb 2025 band	Jan 2025 band
Abbey Heath	Little Ouse	Little Ouse	Normal	Normal
Blunham	Ivel	Ivel	Above normal	Above normal
Bramford	Gipping	Gipping	Normal	Normal
Burnham Overy	Burn	Burn	Normal	Normal
Burnt Mill	Rhee	Rhee	Above normal	Notably high
Cappenham	Tove	Tove	Normal	Above normal
Colney	Yare	Yare	Normal	Normal
Denver	Ely Ouse	Cutoff and Renew Channel	Normal	Normal
Dernford	Cam	Cam	Normal	Normal
Heacham	Heacham	Heacham	Normal	Normal
Ingworth	Bure	Bure	Normal	Normal
Lexden	Colne	Colne Essex	Normal	Normal
Marham	Nar	Nar	Normal	Normal
Needham Weir Total	Waveney (lower)	Waveney	Normal	Normal

Northwold Total	Wissey	Wissey	Normal	Normal
Offord (gross Flows)	Great Ouse	Ouse Beds	Normal	Above normal
Roxton	Great Ouse	Ivel	Normal	Normal
Springfield	Chelmer	Chelmer Upper	Normal	Normal
Swanton Morley Total	Wensum	Wensum	Normal	Normal
Temple	Lark	Lark	Normal	Normal
Willen	Ouzel	Ouzel	Above normal	Above normal

9.3 Groundwater table

Site name	Aquifer	End of Feb 2025 band	End of Jan 2025 band
Biggleswade	Ivel Woburn Sands	Above normal	Above normal
Bircham Newton	North West Norfolk Chalk	Normal	Normal
Breckland	Wissey Chalk	No Data	No Data
Bury St Edmunds	Upper Lark Chalk	Normal	Above normal
Castle Farm, Offton	East Suffolk Chalk	No Data	No Data
Gog Magog, Stapleford	Cam Chalk	Normal	Above normal
Hazlewood Common	East Suffolk Crag	No Data	Notably high
Hindolveston	Norfolk Chalk	No Data	Below normal
Kenninghall	Little Ouse Chalk	Normal	Normal
Linton	Cam Chalk	Normal	Above normal
Newmarket	Snail Chalk	Normal	Normal
Old Primary School, South Creake	North Norfolk Chalk	No Data	No Data

Redlands Hall, Ickleton	Cam Chalk	Notably high	Notably high
Rook Hall, Braiseworth	East Suffolk Chalk	No Data	Above normal
Smeetham Hall Cottages, Bulmer	North Essex Chalk	Normal	Normal
The Spinney, Costessey	Wensum Chalk	No Data	Normal
Washpit Farm, Rougham	North West Norfolk Chalk	No Data	No Data
Therfield Rectory	Upper Lee Chalk	Exceptionally high	Exceptionally high
Fringford P.s.	Upper Bedford Ouse Oolitic Limestone (great)	Above normal	Above normal

9.4 Ensemble projections tables

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

Percentage of pie chart for each band

Site	Bedford Ouse	Kym	Ivel	Ouse	Ely Ouse
Exceptionally low	0	0	0	0	0
Notably low	0	0	0	0	0
Below normal	0	0	0	0	0
Normal	56	58	0	52	55
Above normal	13	23	53	11	16
Notably high	19	11	16	26	23
Exceptionally high	11	8	31	11	7

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

Percentage of pie chart for each band

Site	Bedford Ouse	Kym	Ivel	Ouse	Ely Ouse
Exceptionally low	0	0	0	0	0
Notably low	0	0	0	0	5
Below normal	3	2	0	0	18
Normal	61	84	32	61	50
Above normal	27	2	29	31	11
Notably high	6	2	29	5	11
Exceptionally high	2	11	10	3	5

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

Percentage of pie chart for each band

Site	Therfield Rectory	Redlands Hall	Newmarket	Washpit Farm	Bircham Newton	Kenninghall	Bury St Edmunds	Smeetham
Exceptionally low	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Notably low	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Below normal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Normal	0.0	0.0	79.5	98.4	77.8	85.7	43.6	96.6
Above normal	0.0	93.2	20.5	1.6	22.2	14.3	56.4	3.4
Notably high	86.9	6.8	0.0	0.0	0.0	0.0	0.0	0.0
Exceptionally high	13.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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

Percentage of pie chart for each band

Site	Therfield Rectory	Redlands Hall	Newmarket	Washpit Farm	Bircham Newton	Kenninghall	Bury St Edmunds	Smeetham
Exceptionally low	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Notably low	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Below normal	0.0	0.0	4.9	6.6	0.0	0.0	2.6	0.0
Normal	4.9	62.7	73.2	77.0	74.1	42.9	76.9	32.8
Above normal	29.5	35.6	12.2	6.6	14.8	24.5	7.7	32.8
Notably high	55.7	0.0	2.4	4.9	7.4	22.4	10.3	31.0
Exceptionally high	9.8	1.7	7.3	4.9	3.7	10.2	2.6	3.4