Monthly water situation report: East Anglia

1 Summary - March 2025

Rainfall across East Anglia was exceptionally low for this time of year and no higher than 21% of the long term average within any of the catchments. This loss in rainfall directly affected SMD levels, which increased significantly to between 11mm and 40mm, and river flows, which were normal to below normal of the long term average. Groundwater levels remain healthy with most catchments at normal for this time of year. Public water supply reservoirs are above, or in line with, their respective operating curves.

1.1 Rainfall

March 2025 was an extremely dry month across East Anglia, with all but one catchment experiencing exceptionally low rainfall totals, and no catchment receiving more than 21% of their long term average rainfall totals for the month. Upper Bedford Ouse was the only catchment above exceptionally low rainfall, but still only experienced 15% of the long term average rainfall for the catchment. The exceptionally low totals in March have meant the past 3 months of rainfall have been close the long term average in the south of East Anglia, but the northern catchments have experienced below average rainfall, and the northern-most catchments have experienced notably low rainfall totals. Over a longer timeframe, flows have been much closer to average in the past 6 months and the past 12 months has seen average rainfall across most catchments, with above normal or exceptionally high rainfall totals in the west of East Anglia.

1.2 Soil moisture deficit and recharge

The soil moisture deficit has increased to between 11mm and 40mm across all East Anglia catchments, compared to less than a 10mm deficit across all catchments by the end of February 2025. The increase in the soil moisture deficit in the western catchments has meant levels are 6mm to 25mm above average deficits for this time of year, while the eastern catchments have experienced a deficit 26mm to 50mm above the long term average. The soil moisture deficit across East Anglia has significantly increased in the past month, a direct result in the lack of rainfall across the region, and could continue as temperatures rise and rainfall drops into the spring.

1.3 River flows

Despite the drop in rainfall, the majority of catchments saw a normal river flow for this time of year. One site continued above normal, the Rhee, benefitting from the high groundwater level in the area. The eastern catchments saw below average river flows in the Gipping, Waveney, Wensum and the Yare, correlating with higher soil moisture deficits and exceptionally low rainfall totals. The lack of rainfall meant river flow charts trended down throughout March 2025.

1.4 Groundwater levels

Groundwater levels through March 2025 in East Anglia were predominately normal to above normal compared to the long term average. Biggleswade and Redlands Hall catchments had above normal groundwater levels, while Therfield levels were exceptionally high. All three of the sites above normal are in the south west of East Anglia, while the sites in the north east, Hindolveston and The Spinney Costessey, experienced below normal groundwater levels for this time of year.

1.5 Reservoir stocks

Storage in East Anglia public water supply reservoirs remain on, or above, the normal operating curves at their respective sites at the end of March 2025. Alton and Ardleigh levels did drop throughout the month, but remain above the normal operating curve.

1.6 Forward look

1.6.1 Probabilistic ensemble projections for river flows at key sites

River flow projections for East Anglia show a high probability of normal, or higher, river flows by the end of June 2025, despite the low rainfall and increasing soul moisture deficit. The likelihood of flows below normal are less than 10% at all sites, except the Ely Ouse which has a 46% likelihood of flows being below normal or lower. Projections to September 2025 also predict high flows, with notably high flows having a likelihood of over 15% at all sites except Ely Ouse, which has a likelihood of below normal flows of 37%.

1.6.2 Probabilistic ensemble projections for groundwater levels in key aquifers

Groundwater projections for September 2025 in East Anglia suggest groundwater levels should be normal or above at the majority of projected sites, with only Bury St Edmunds,

48.7%, and Bircham Newton and Newmarket, both less than 12%, having a likelihood of below normal groundwater levels. Projections for March 2026 have greater uncertainty due to the extended timeframe, however groundwater levels are likely to be normal or above. March 2026 projections also have over a 25% likelihood of groundwater levels being below normal at all projected sites.

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*[SMD]: soil moisture deficits

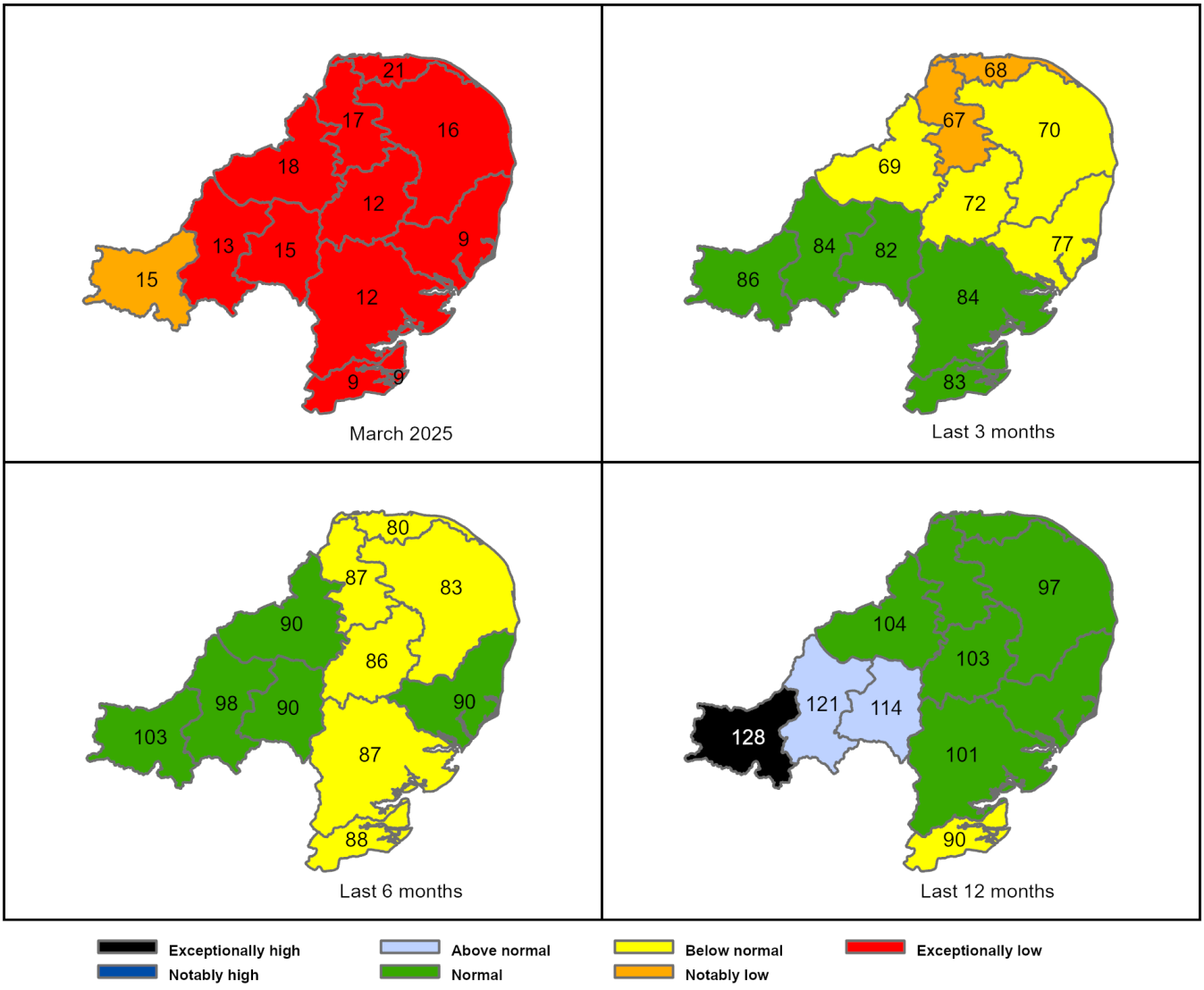
*[LTA]: long term average

Contact Details: 03708 506 506

2 Rainfall

2.1 Rainfall map

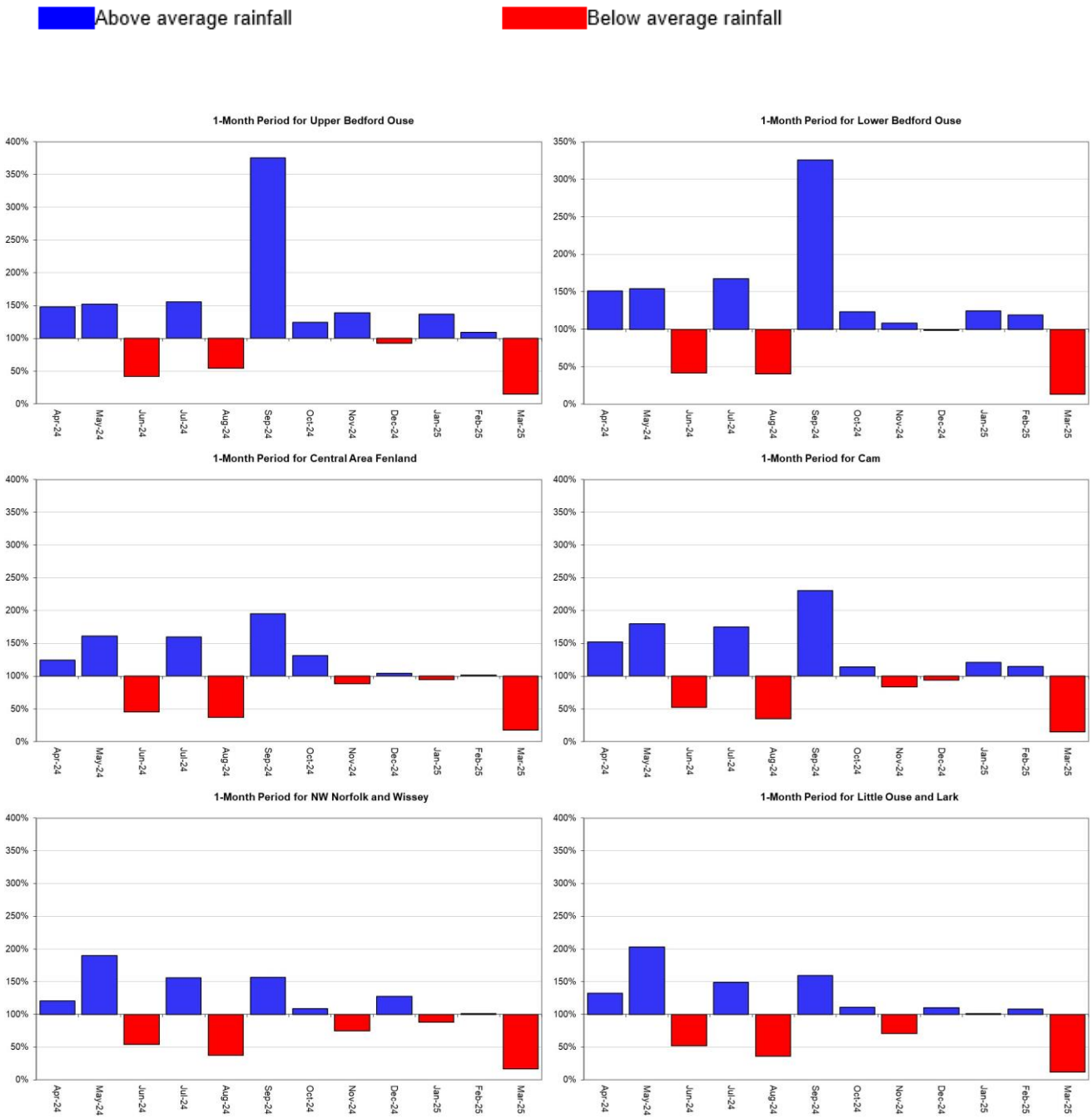
Figure 2.1: Total rainfall for hydrological areas across East Anglia, expressed as a percentage of long term average rainfall for the current month (up to 31 March 2025), the last 3 months, the last 6 months, and the last 12 months. Category classes are based on an analysis of respective historic totals.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

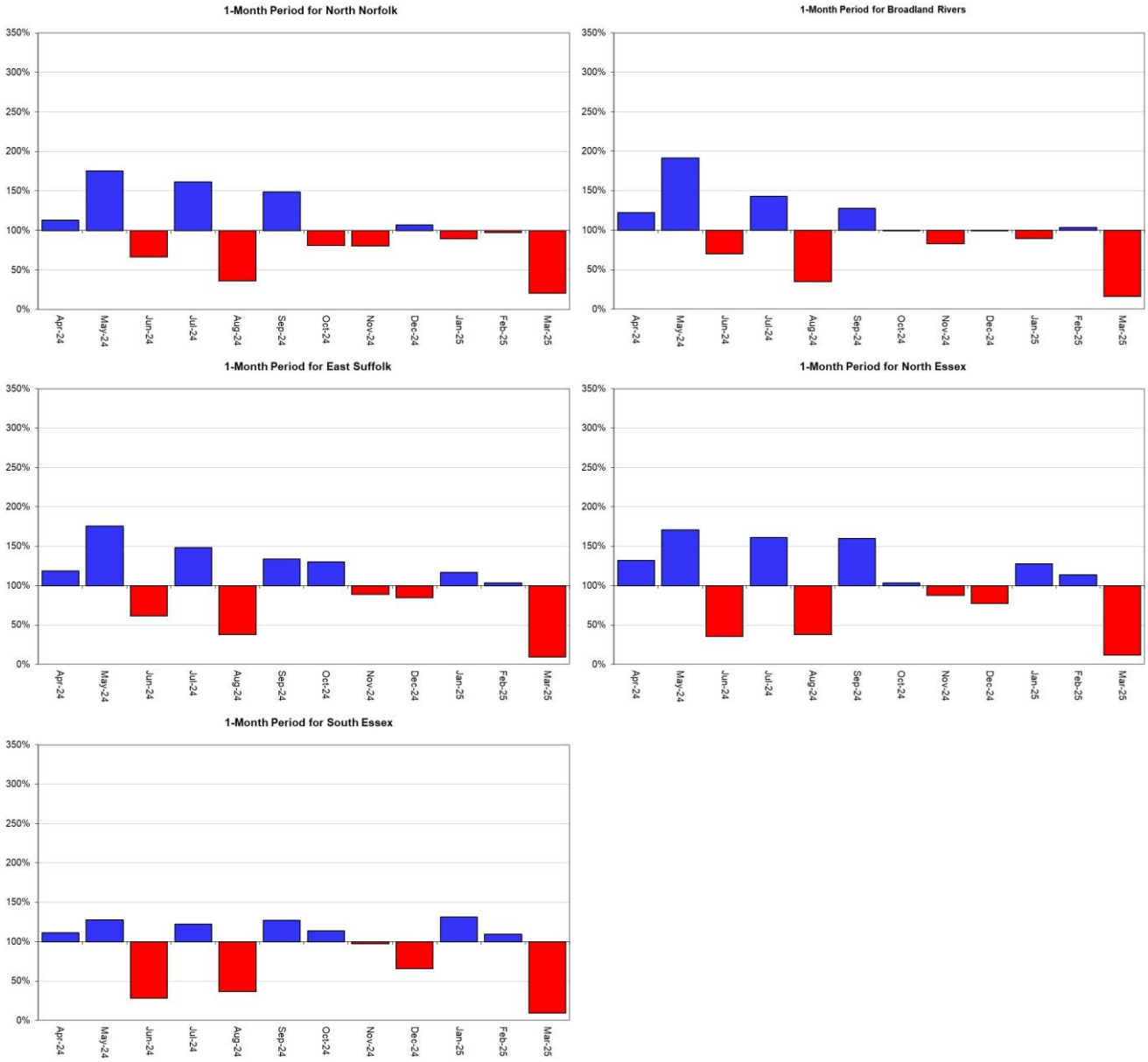


HadUK data based on the Met Office 1km gridded rainfall dataset derived from rain gauges (Source: Met Office. Crown copyright, 2025). Provisional data based on Environment Agency 1km gridded rainfall dataset derived from Environment Agency intensity rain gauges. Crown copyright. All rights reserved.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

2.2 Rainfall charts

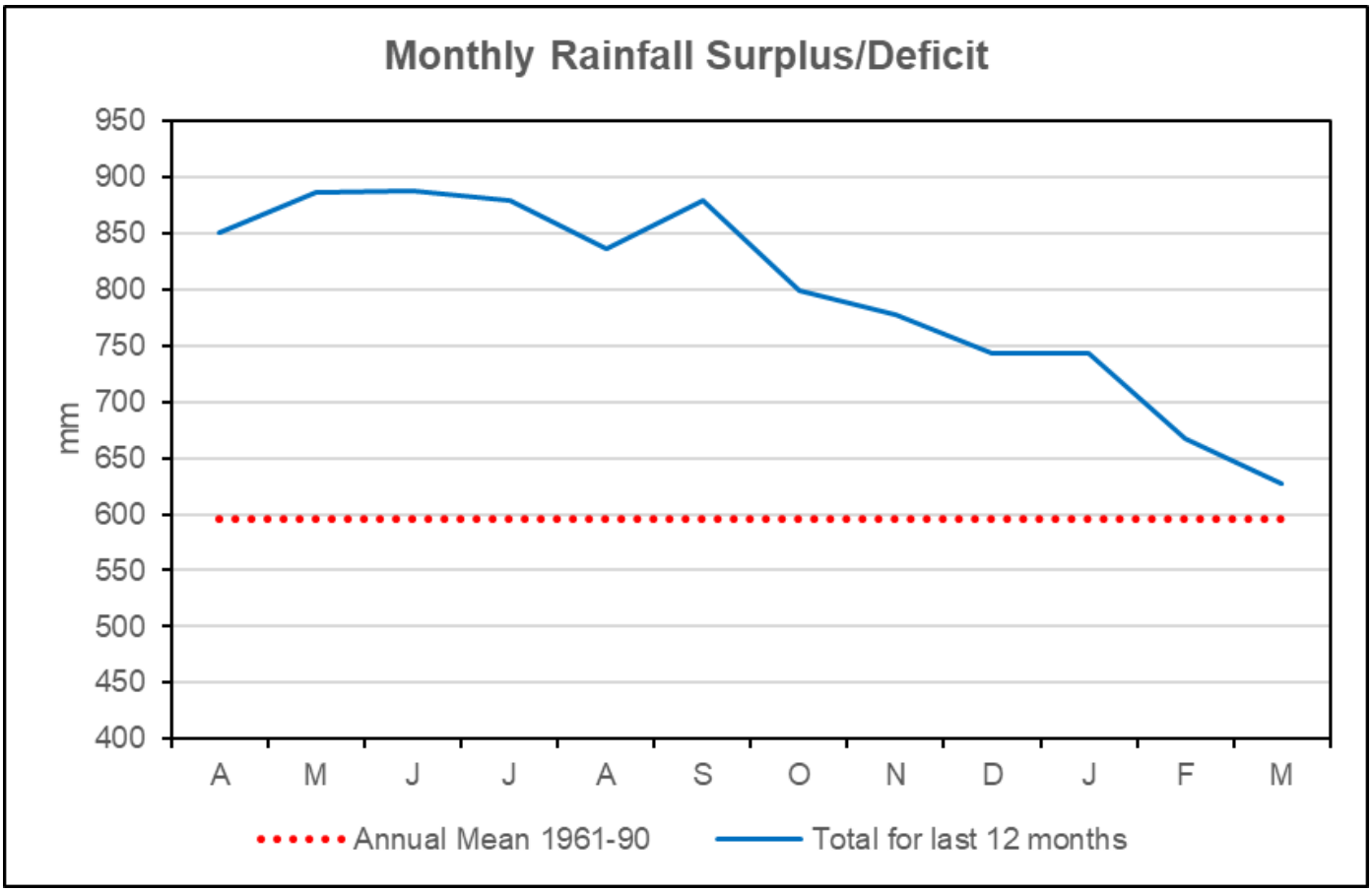
Figure 2.2: Monthly rainfall totals for the past 12 months as a percentage of the 1961 to 1990 long term average for each region and for England.





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 31 March 2025. Values based on the weekly MORECS data for real land use.

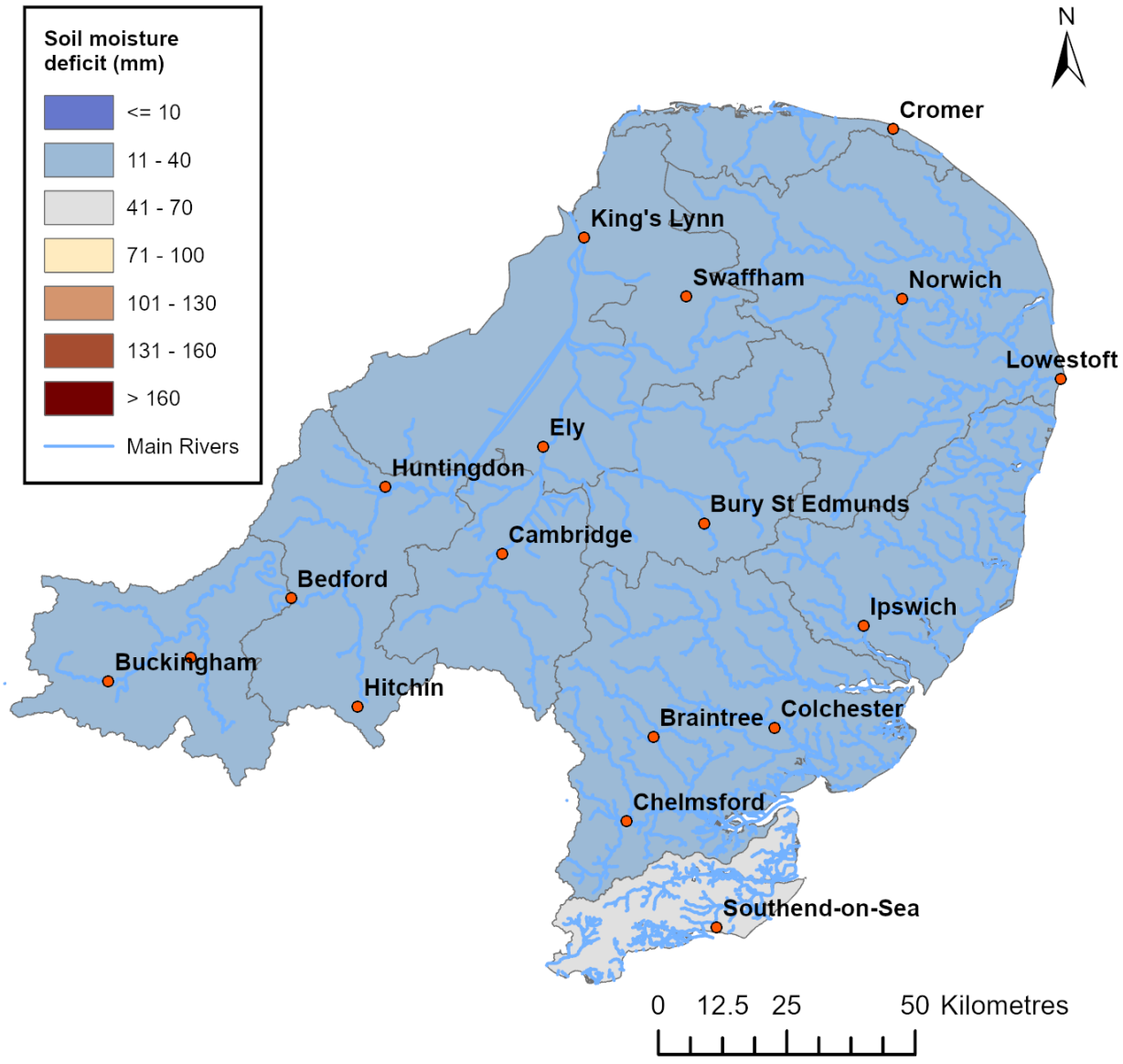
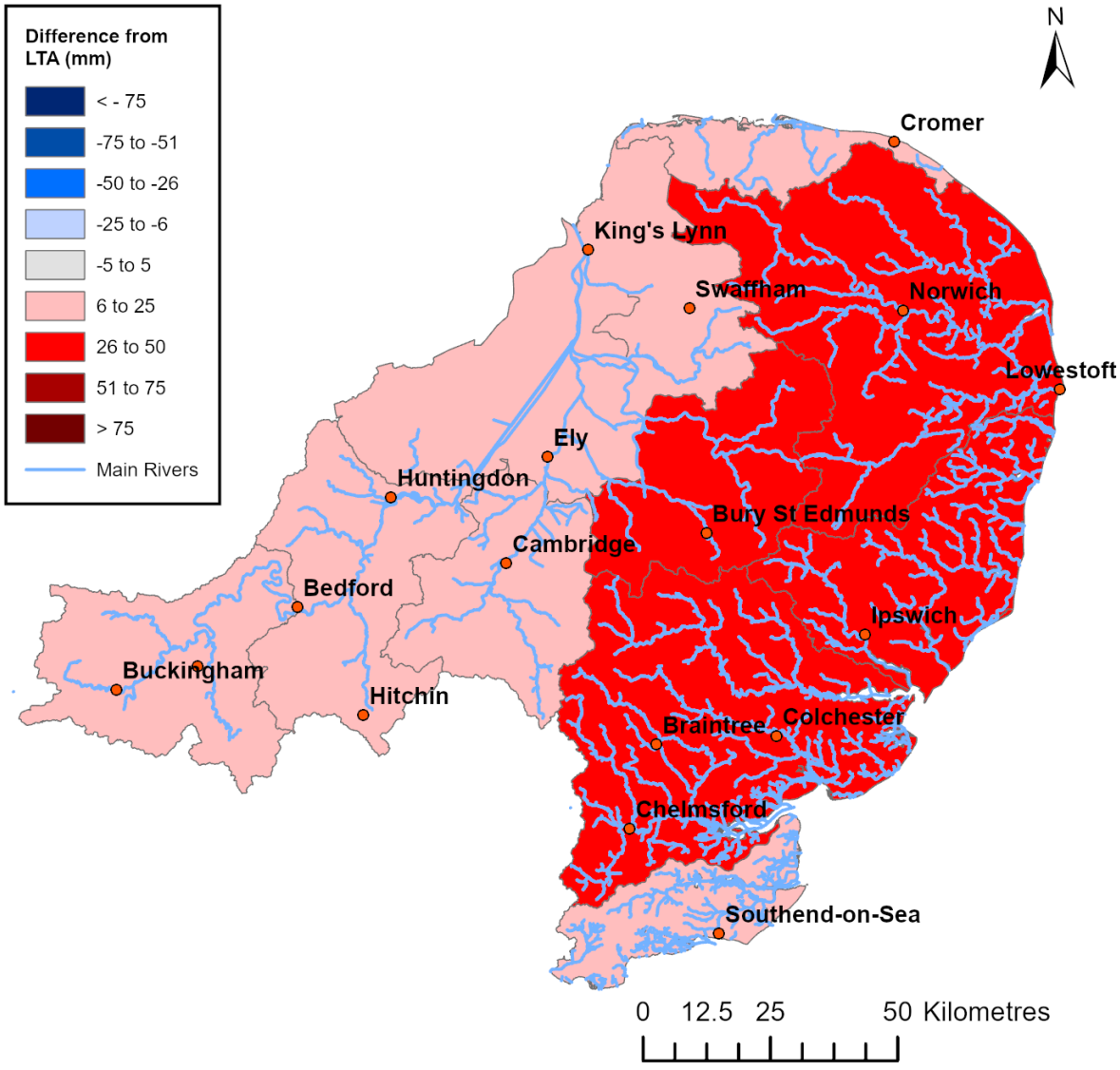
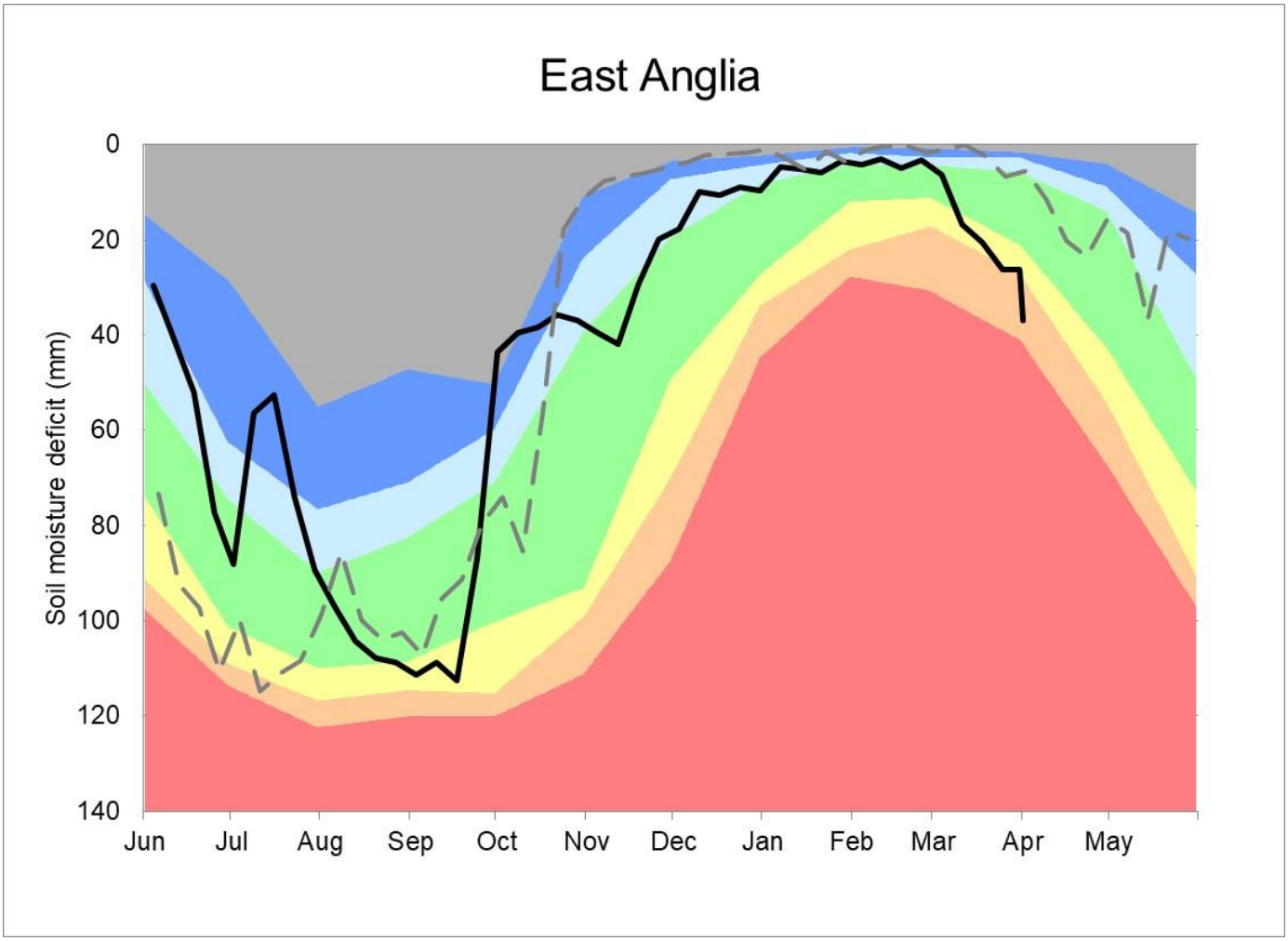


Figure 3.1.2: Soil moisture deficit difference from long-term average for 31 March 2025. Values based on the weekly MORECS data for real land use.



3.2 Soil moisture deficit charts

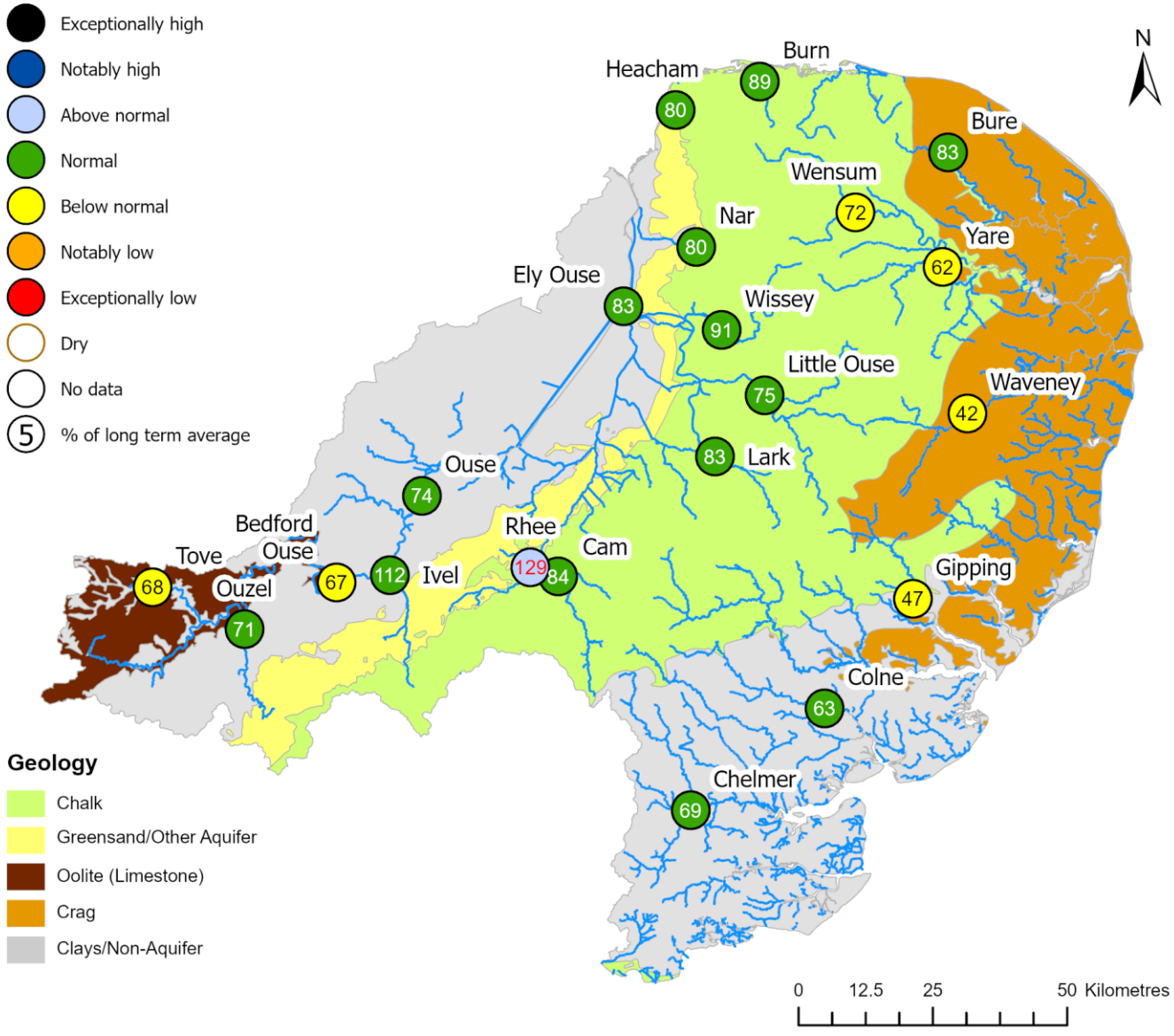
Figure 3.2: Latest soil moisture deficit compared to an analysis of historic 1961 to 1990 long term data set. Weekly MORECS data for real land use.



4 River flows

4.1 River flows map

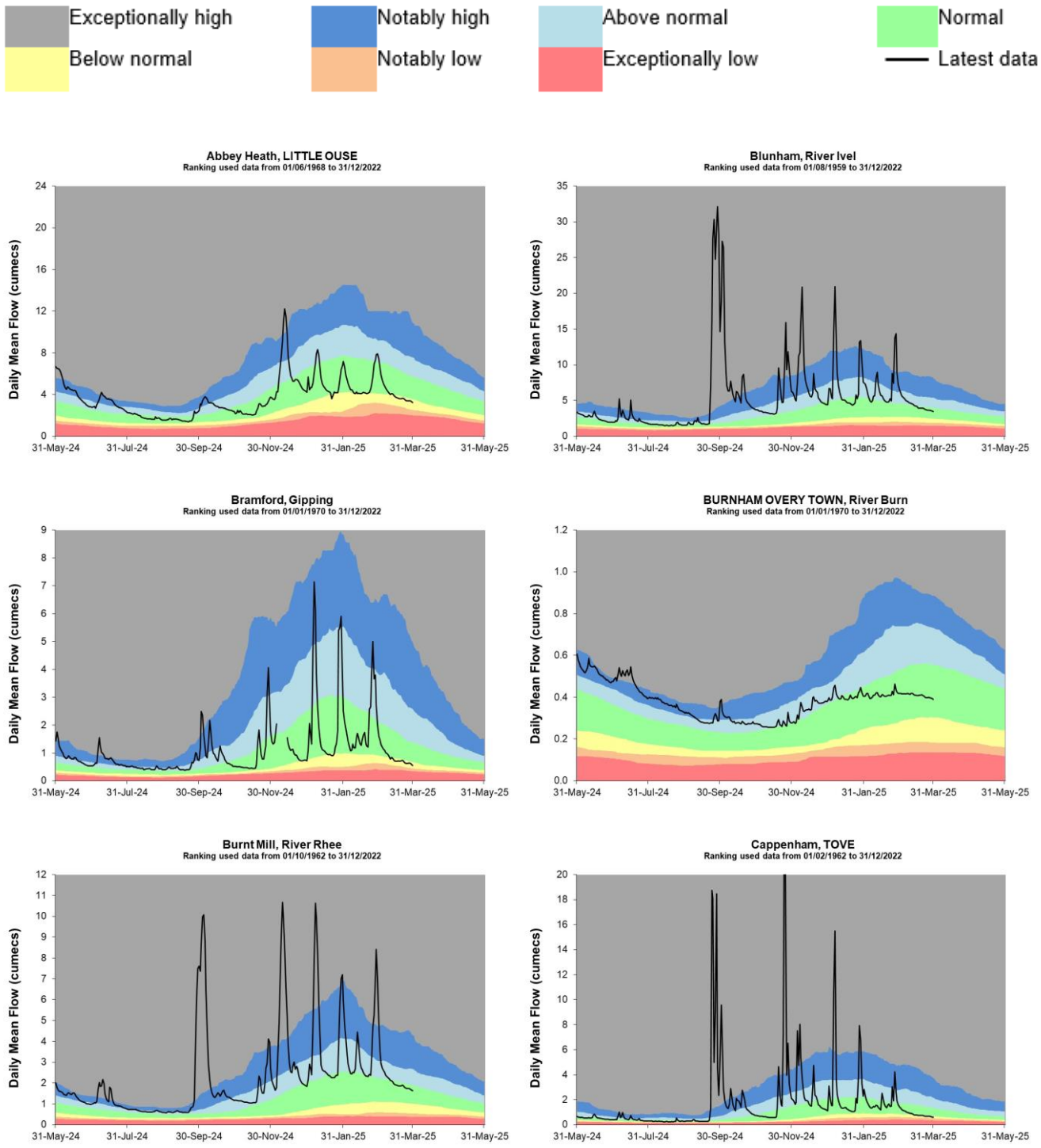
Figure 4.1: Monthly mean river flow for indicator sites for March 2025, expressed as a percentage of the respective long term average and classed relative to an analysis of historic March monthly means Table available in the appendices with detailed information.



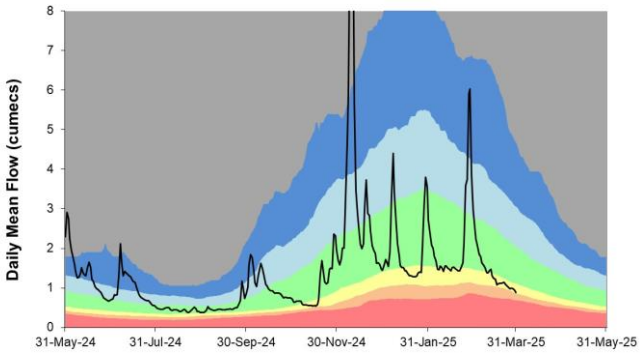
(Source: Environment Agency). Geological map reproduced with kind permission from UK Groundwater Forum, BGS copyright NERC. Crown copyright. All rights reserved. Environment Agency, 100024198, 2025.

4.2 River flow charts

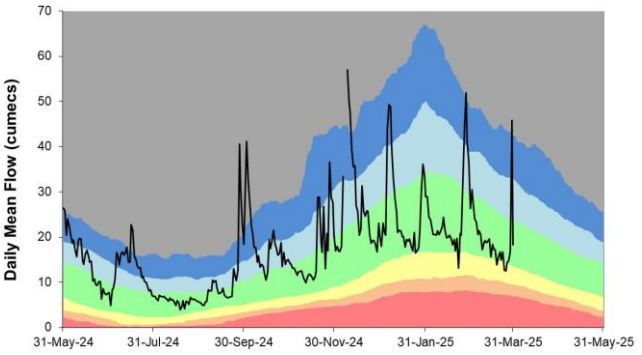
Figure 4.2: Daily mean river flow for index sites over the past year, compared to an analysis of historic daily mean flows, and long term maximum and minimum flows.



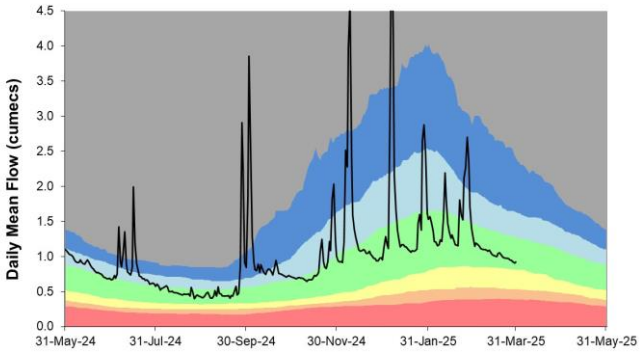
COLNEY, River Yare
Ranking used data from 01/01/1970 to 31/12/2022



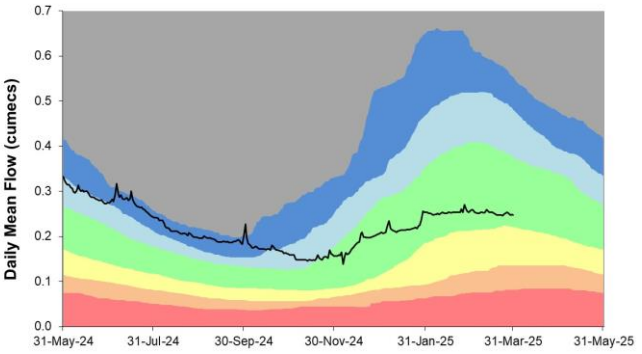
Denver, ELY OUSE
Ranking used data from 01/11/1971 to 31/12/2022



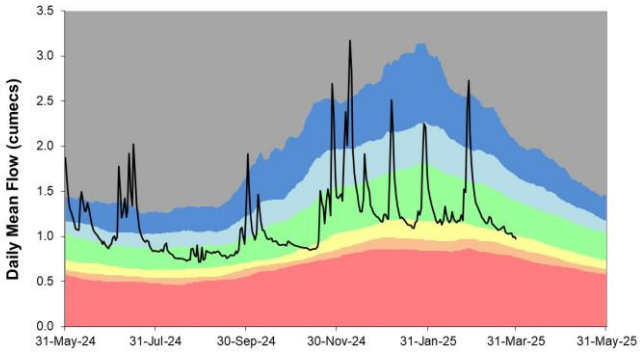
Dernford, CAM
Ranking used data from 21/02/1949 to 23/12/2022



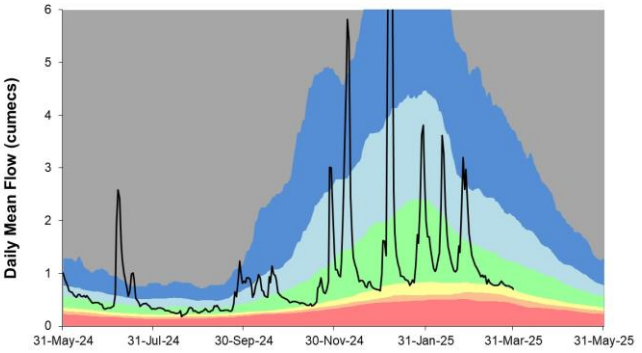
Heacham, HEACHAM
Ranking used data from 01/11/1965 to 31/12/2022



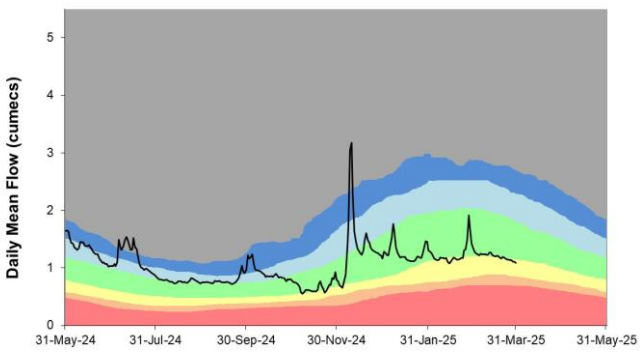
Ingworth, Bure
Ranking used data from 01/01/1970 to 31/12/2022



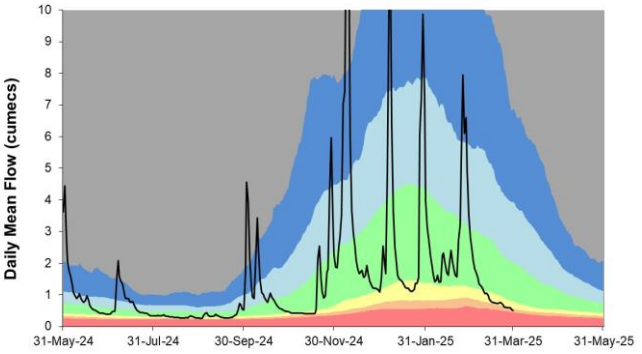
Lexden, Colne
Ranking used data from 01/01/1970 to 31/12/2022

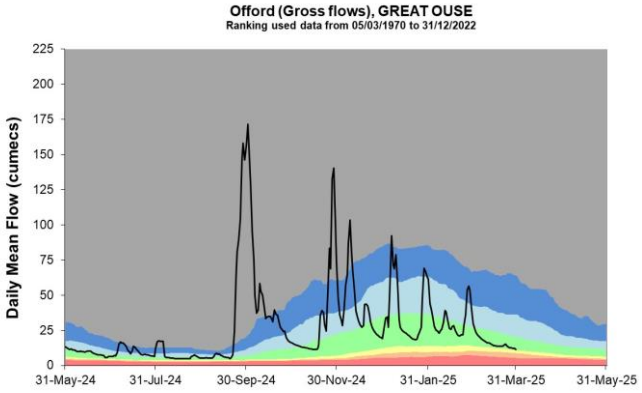


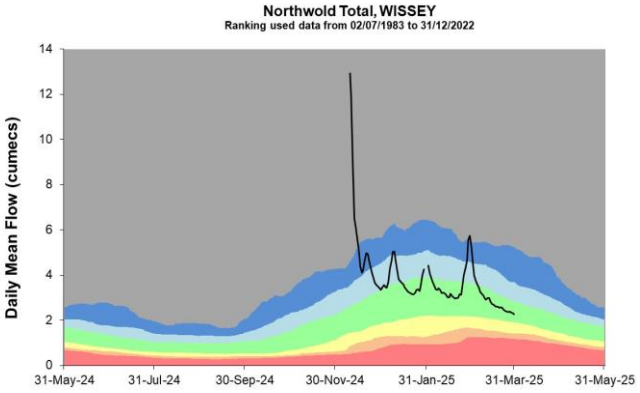
Marham, River Nar
Ranking used data from 01/09/1953 to 31/12/2022

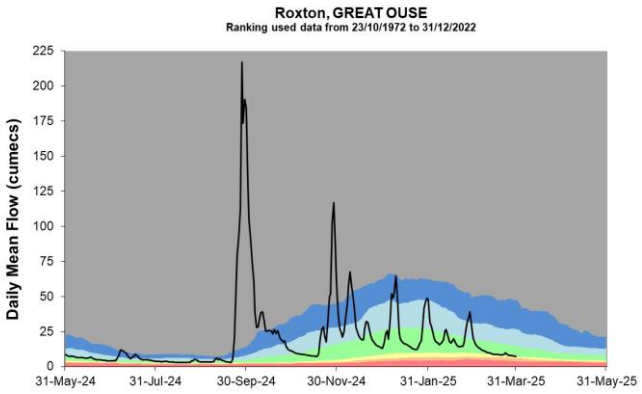


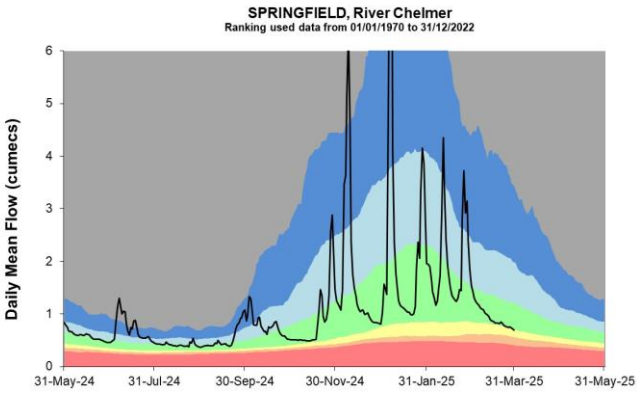
Needham Weir Total, Waveney
Ranking used data from 01/01/1970 to 31/12/2022

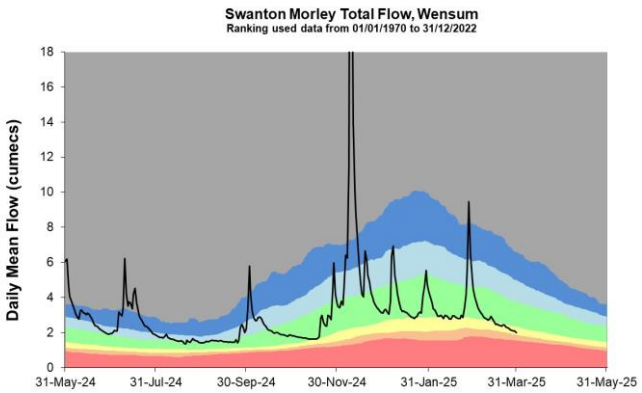


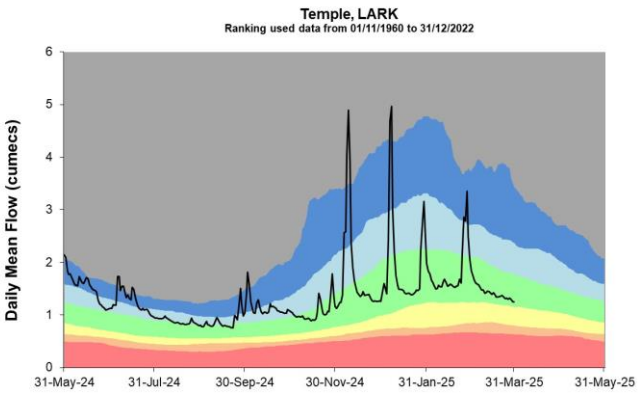


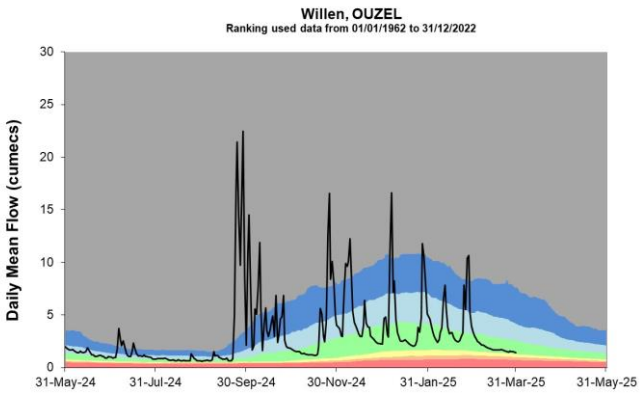










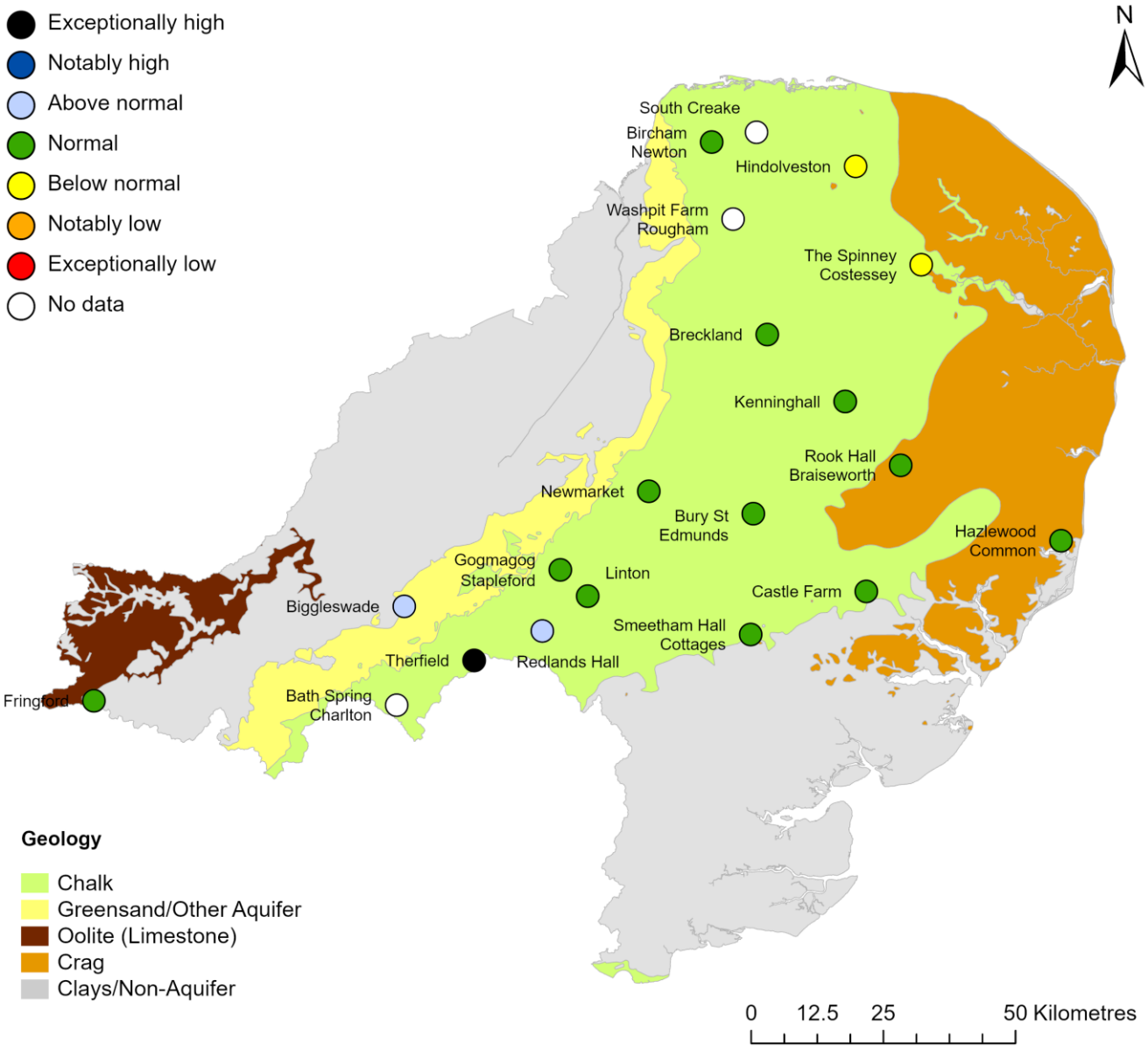


Source: Environment Agency.

5 Groundwater levels

5.1 Groundwater levels map

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



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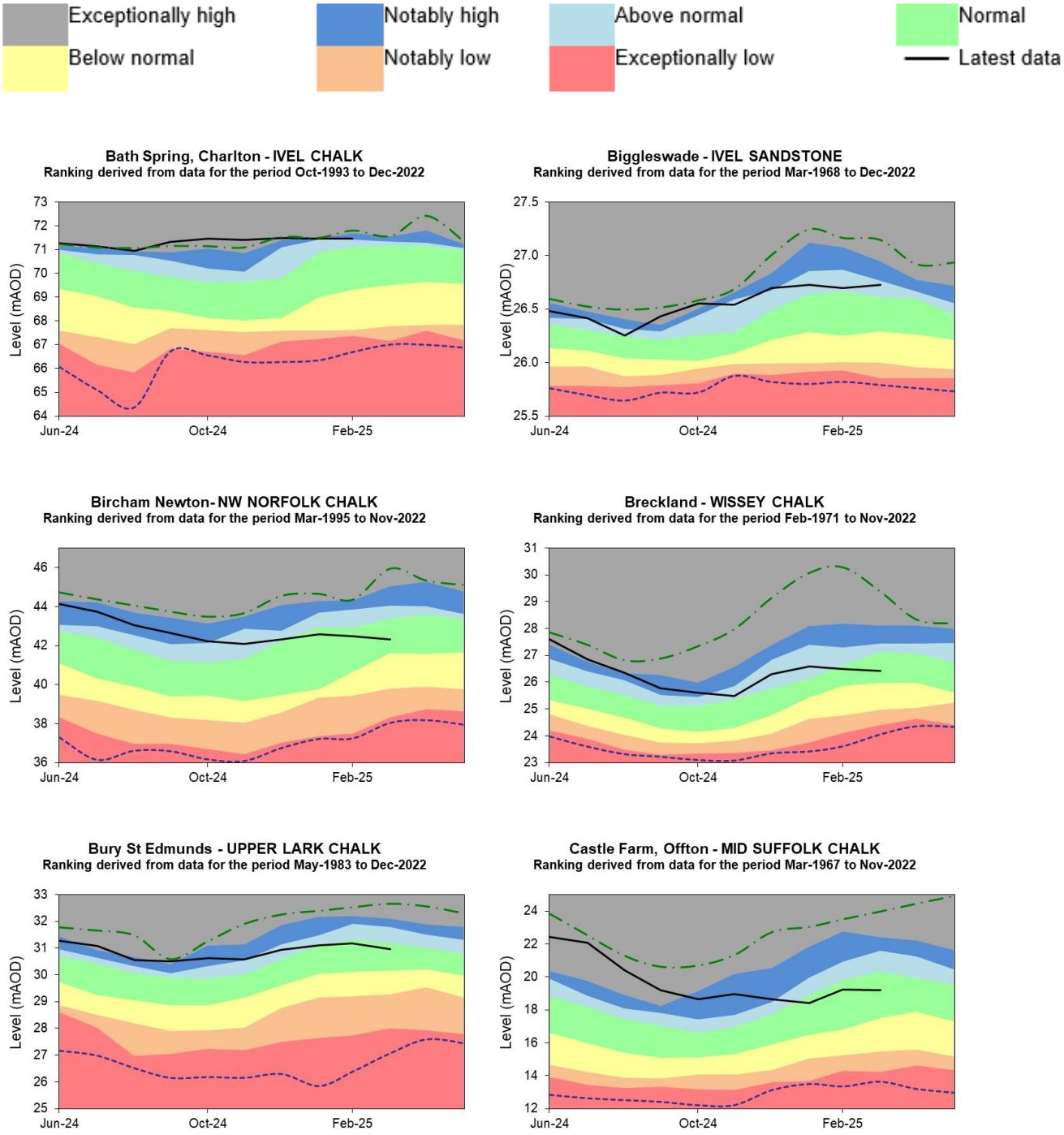
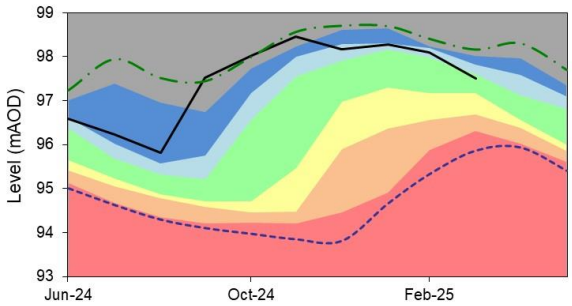
5.2 Groundwater level charts

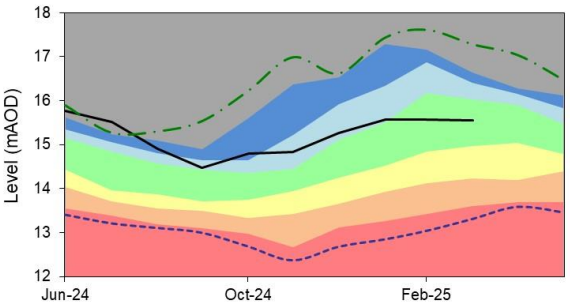
Figure 5.2: End of month groundwater levels at index groundwater level sites for major aquifers. 22 months compared to an analysis of historic end of month levels and long term maximum and minimum levels.



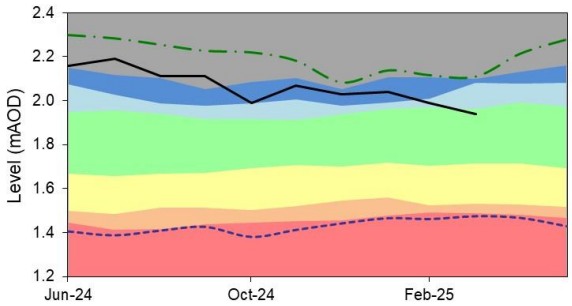
Fringford - GREAT OOLITE
Ranking derived from data for the period Sep-1980 to Dec-2022



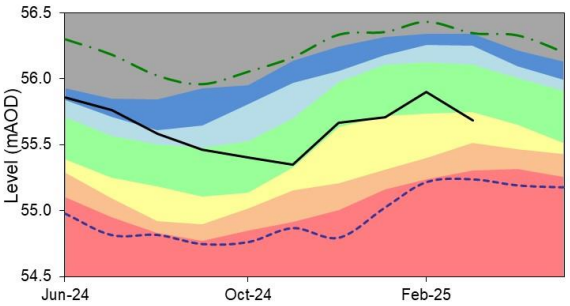
Gog Magog, Stapleford - CAM CHALK
Ranking derived from data for the period Jan-1980 to Dec-2022



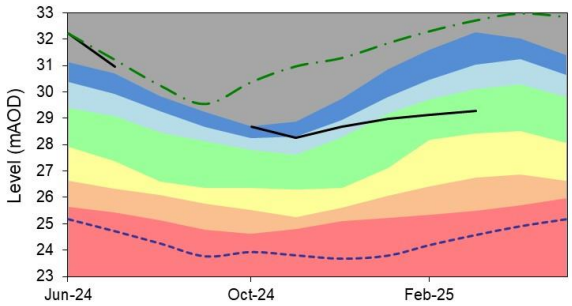
Hazlewood Common - SUFFOLK CRAG
Ranking derived from data for the period Oct-1988 to Nov-2022



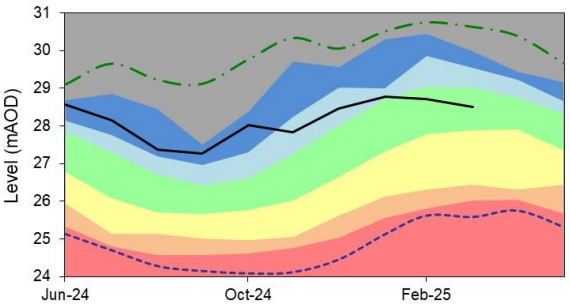
Hindolveston - NORFOLK CHALK
Ranking derived from data for the period Sep-1984 to Nov-2022



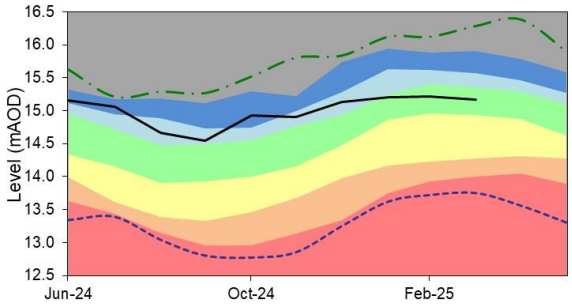
Kenninghall - LITTLE OUSE CHALK
Ranking derived from data for the period Aug-1973 to Dec-2022



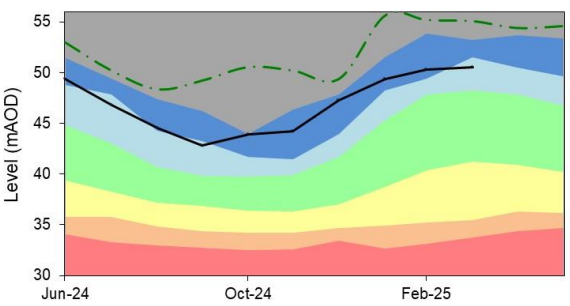
Linton- CAM CHALK
Ranking derived from data for the period Jan-1980 to Dec-2022

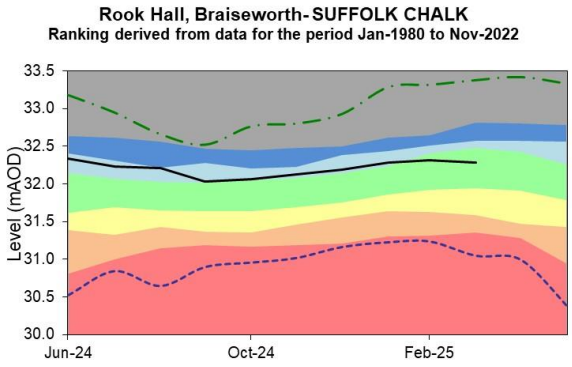


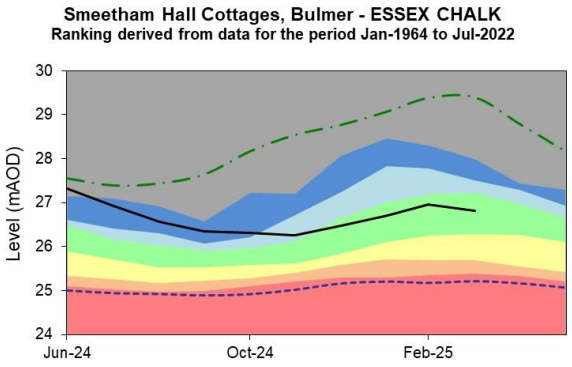
Newmarket - SNAIL CHALK
Ranking derived from data for the period Feb-1983 to Dec-2022

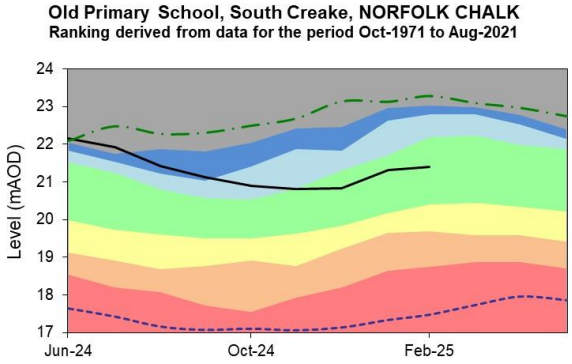


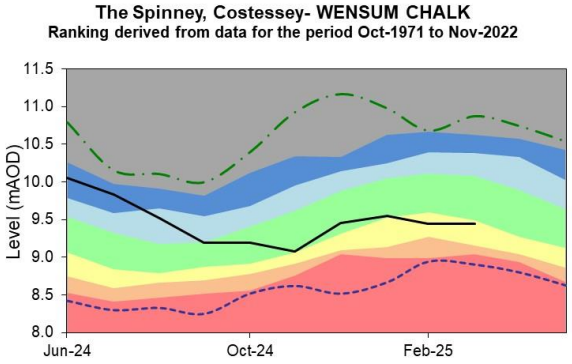
Redlands Hall, Ickleton - CAM CHALK
Ranking derived from data for the period Aug-1963 to Dec-2022

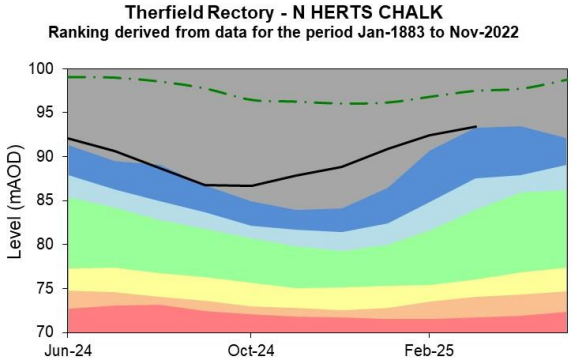


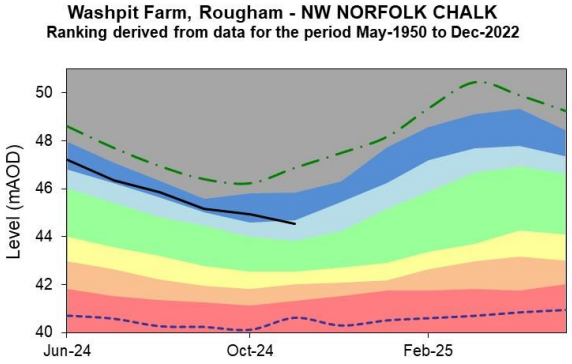








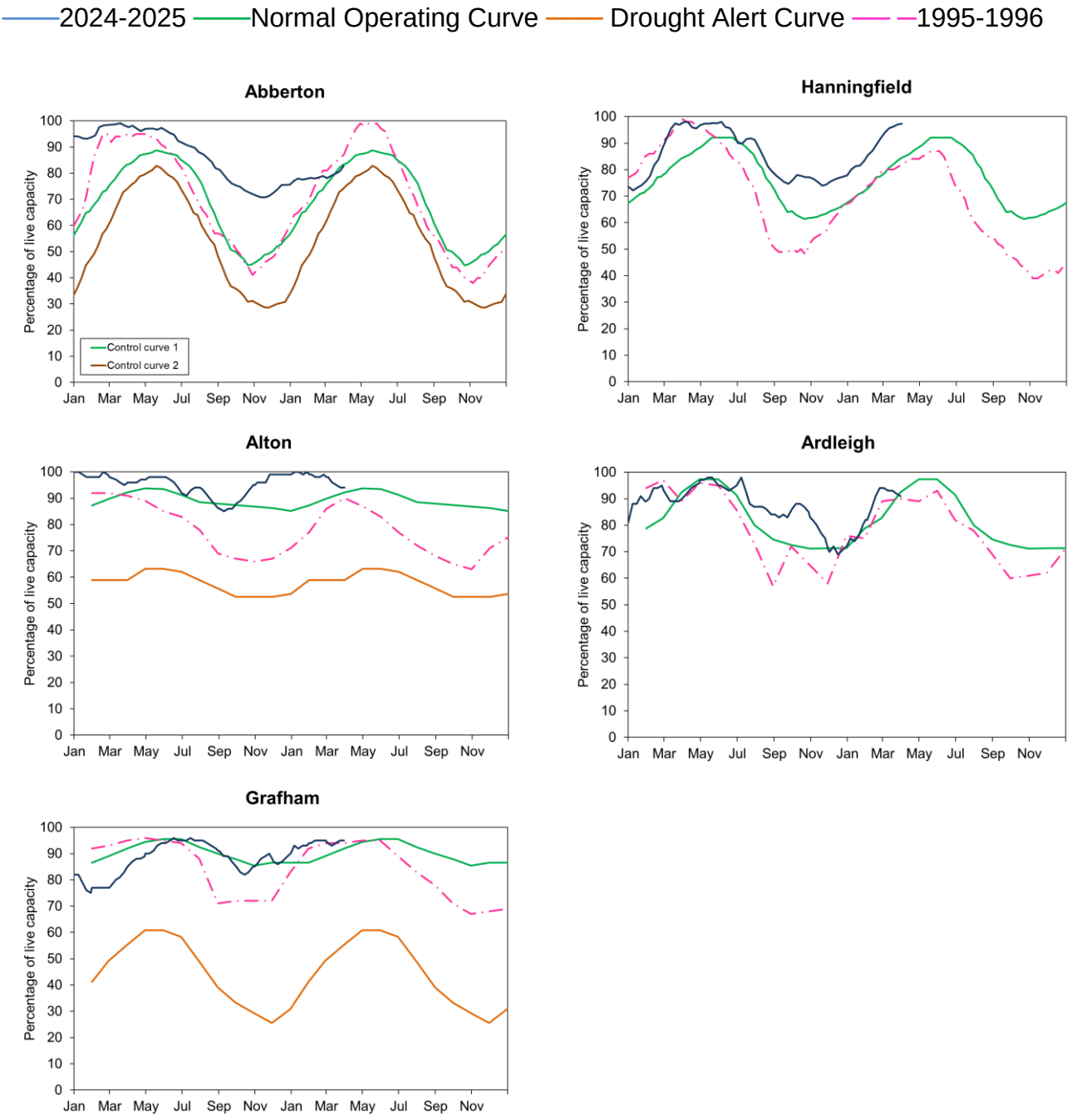




Source: Environment Agency, 2025.

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.

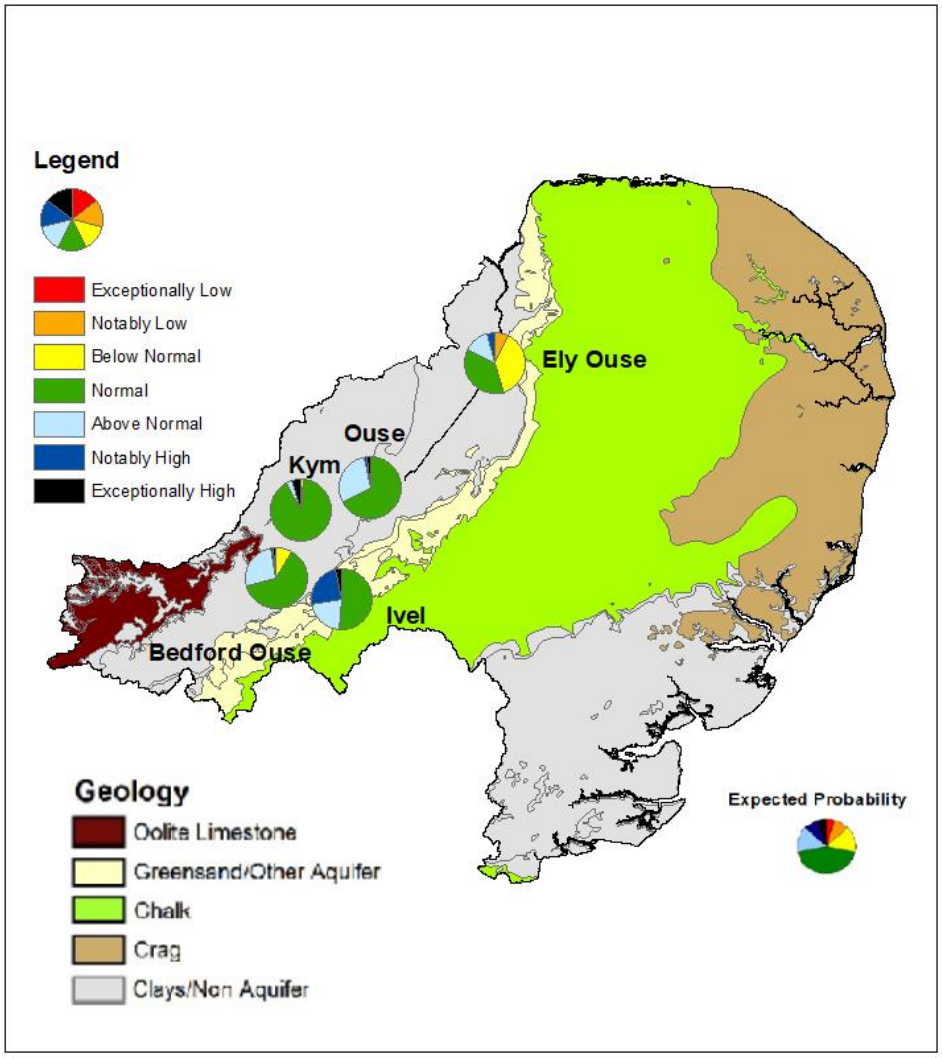


(Source: water companies).

7 Forward look

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

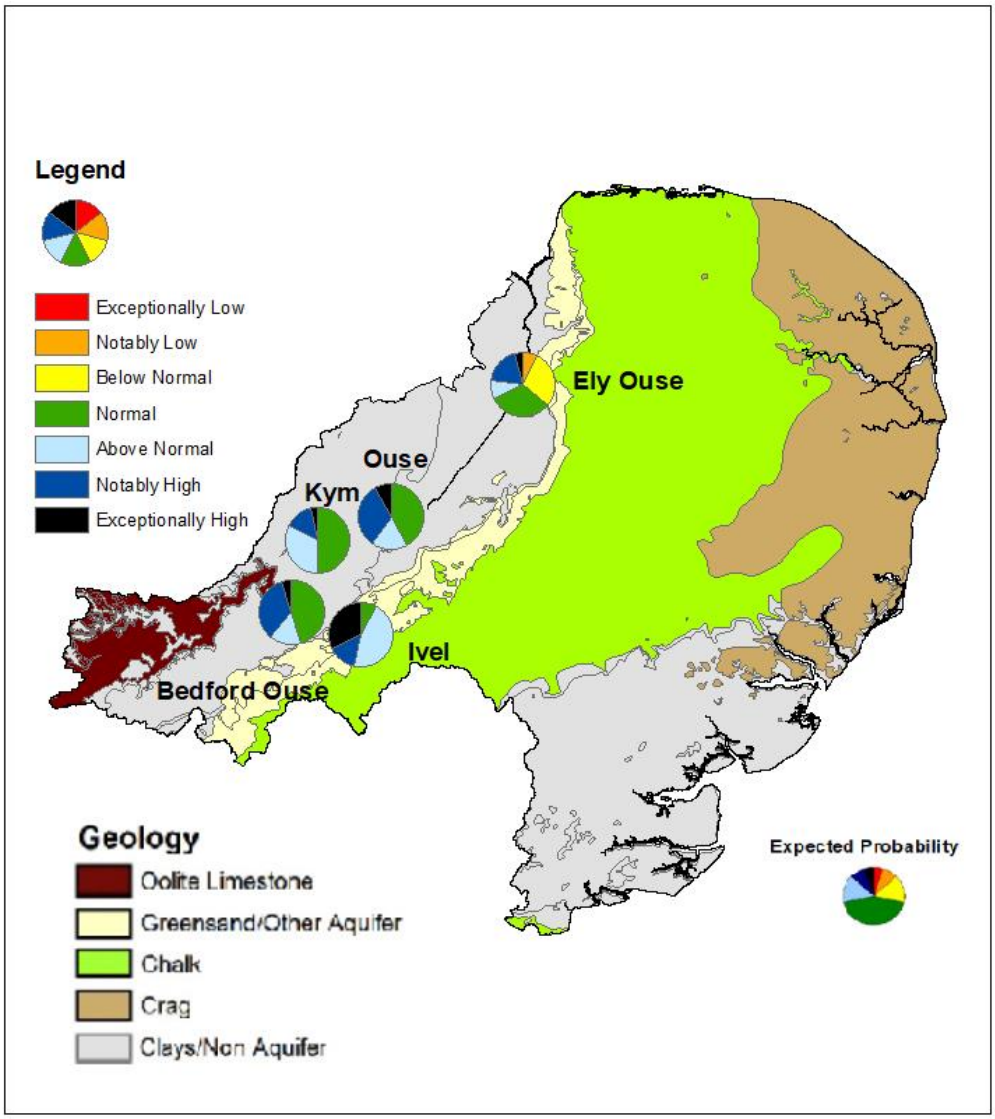
Table available in the appendices with detailed information. Exceptionally high or low levels are those which would typically occur 5% of the time within the historic record. Notably high or low levels are those which would typically occur 8% of the time. Above normal or below normal levels are those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

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

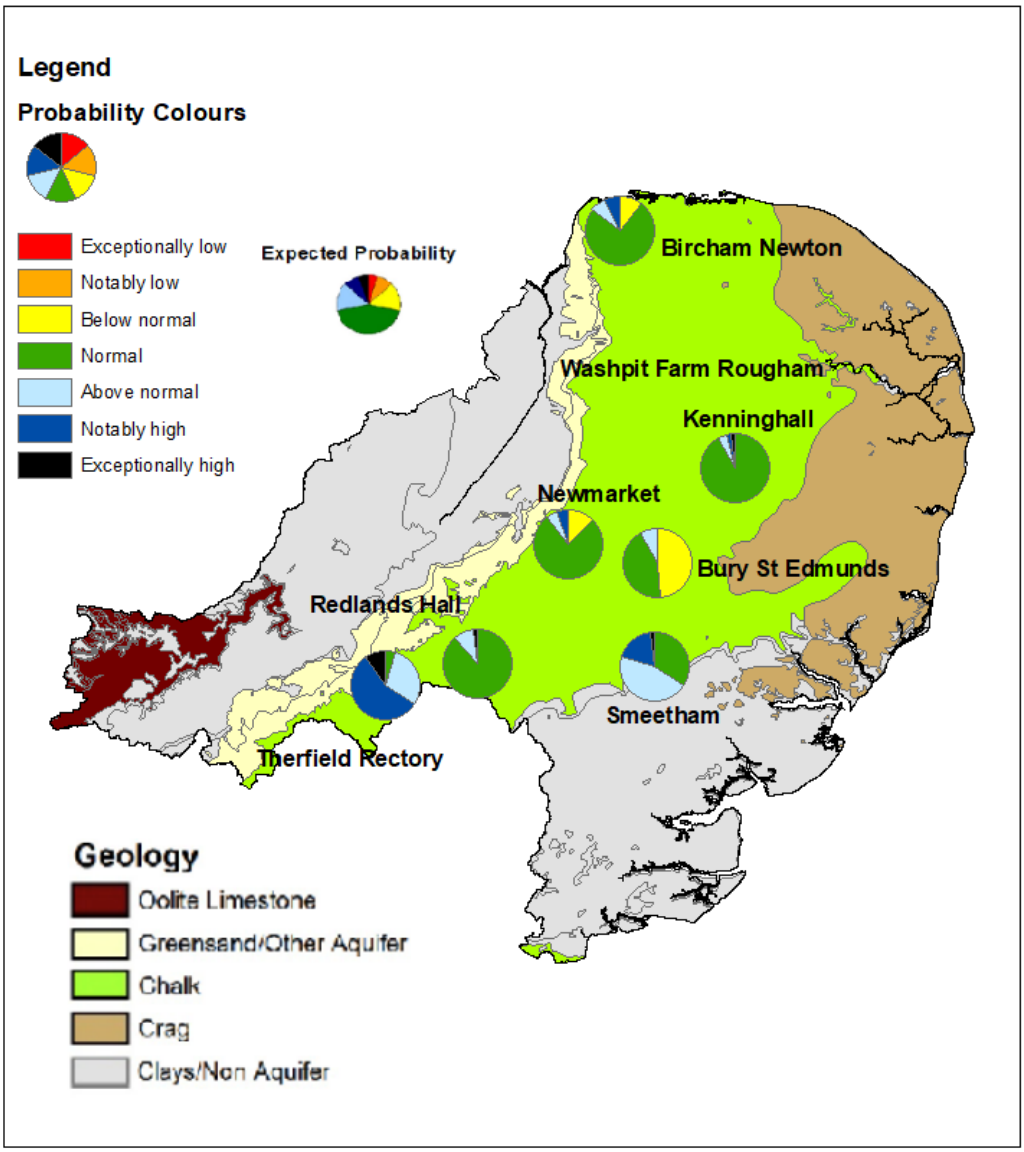
Table available in the appendices with detailed information. Exceptionally high or low levels are those which would typically occur 5% of the time within the historic record. Notably high or low levels are those which would typically occur 8% of the time. Above normal or below normal levels are those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

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

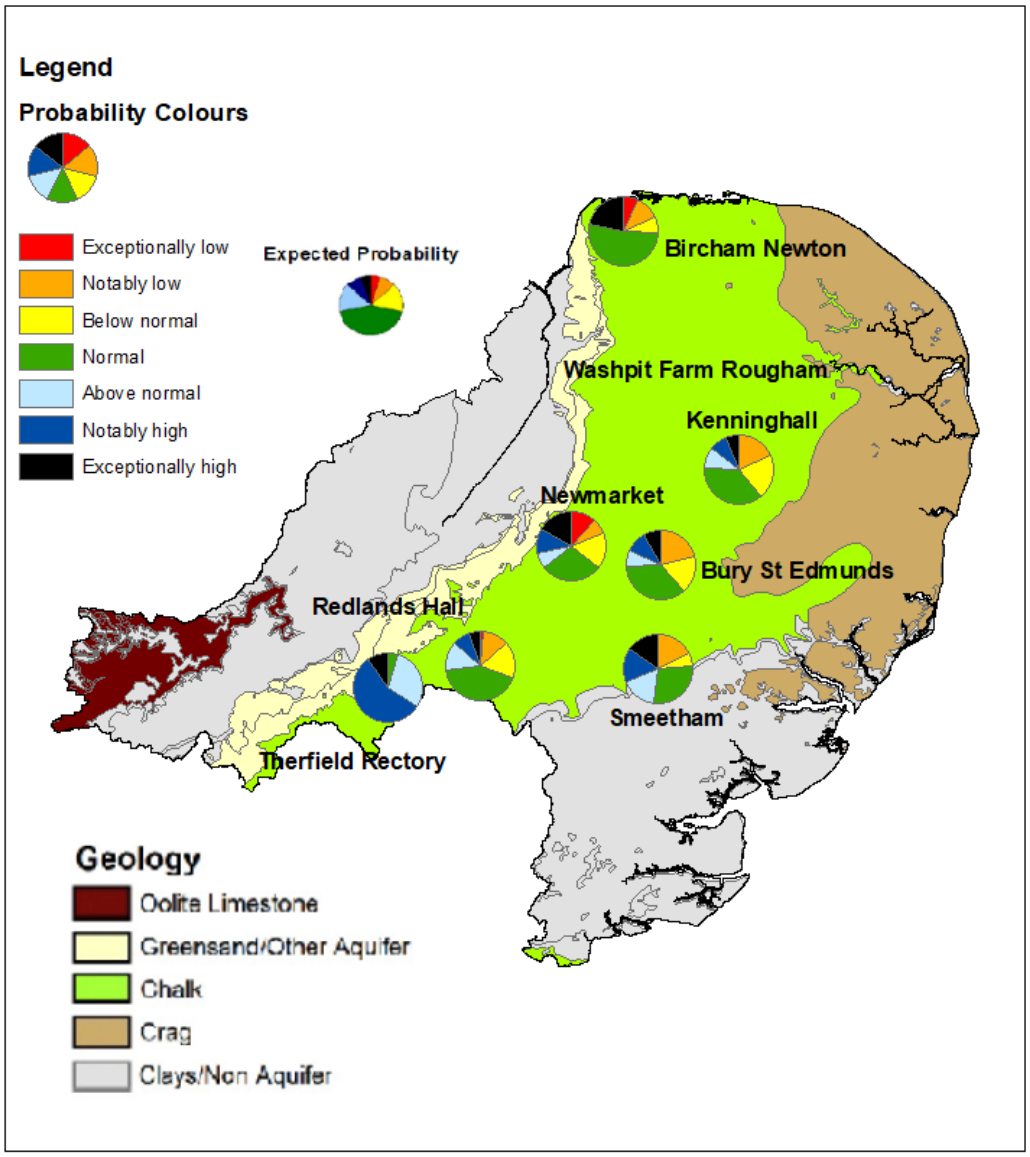
Table available in the appendices with detailed information. Exceptionally high or low levels are those which would typically occur 5% of the time within the historic record. Notably high or low levels are those which would typically occur 8% of the time. Above normal or below normal levels are those 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 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	Mar 2025 rainfall % of long term average 1961 to 1990	Mar 2025 band	Jan 2025 to March cumulative band	Oct 2024 to March cumulative band	Apr 2024 to March cumulative band
Broadland Rivers	16	Exceptionally Low	Below normal	Below normal	Normal
Cam	15	Exceptionally Low	Normal	Normal	Above normal
Central Area Fenland	18	Exceptionally Low	Below normal	Normal	Normal
East Suffolk	9	Exceptionally Low	Below normal	Normal	Normal
Little Ouse And Lark	12	Exceptionally Low	Below normal	Below normal	Normal
Lower Bedford Ouse	13	Exceptionally Low	Normal	Normal	Above normal
North Essex	12	Exceptionally Low	Normal	Below normal	Normal
North Norfolk	21	Exceptionally Low	Notably low	Below normal	Normal
Nw Norfolk And Wissey	17	Exceptionally Low	Notably low	Below normal	Normal

South Essex	9	Exceptionally Low	Normal	Below normal	Below normal
Upper Bedford Ouse	15	Notably Low	Normal	Normal	Exceptionally high

9.2 River flows table

Site name	River	Catchment	Mar 2025 band	Feb 2025 band
Abbey Heath	Little Ouse	Little Ouse	Normal	Normal
Blunham	Ivel	Ivel	Normal	Above normal
Bramford	Gipping	Gipping	Below normal	Normal
Burnham Overy	Burn	Burn	Normal	Normal
Burnt Mill	Rhee	Rhee	Above normal	Above normal
Cappenham	Tove	Tove	Below normal	Normal
Colney	Yare	Yare	Below 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	Below normal	Normal

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

9.3 Groundwater table

Site name	Aquifer	End of Mar 2025 band	End of Feb 2025 band
Biggleswade	Ivel Woburn Sands	Above normal	Above normal
Bircham Newton	North West Norfolk Chalk	Normal	Normal
Breckland	Wissey Chalk	Normal	Normal
Bury St Edmunds	Upper Lark Chalk	Normal	Normal
Castle Farm, Offton	East Suffolk Chalk	Normal	Normal
Gog Magog, Stapleford	Cam Chalk	Normal	Normal
Hazlewood Common	East Suffolk Crag	Normal	Above normal
Hindolveston	Norfolk Chalk	Below normal	Normal
Kenninghall	Little Ouse Chalk	Normal	Normal
Linton	Cam Chalk	Normal	Normal
Newmarket	Snail Chalk	Normal	Normal
Old Primary School, South Creake	North Norfolk Chalk		Normal

Redlands Hall, Ickleton	Cam Chalk	Above normal	Notably high
Rook Hall, Braiseworth	East Suffolk Chalk	Normal	Normal
Smeetham Hall Cottages, Bulmer	North Essex Chalk	Normal	Normal
The Spinney, Costessey	Wensum Chalk	Below normal	Below normal
Washpit Farm, Rougham	North West Norfolk Chalk		
Therfield Rectory	Upper Lee Chalk	Exceptionally high	Exceptionally high
Fringford P.s.	Upper Bedford Ouse Oolitic Limestone (great)	Normal	Above normal

9.4 Ensemble projections tables

9.4.1 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	Stiffkey	Gipping
Exceptionally low	0	0	0	0	0	#DIV/0!	#DIV/0!
Notably low	0	0	0	0	7	#DIV/0!	#DIV/0!
Below normal	8	2	0	0	39	#DIV/0!	#DIV/0!
Normal	63	90	52	68	36	#DIV/0!	#DIV/0!
Above normal	26	3	21	29	14	#DIV/0!	#DIV/0!
Notably high	2	0	24	2	5	#DIV/0!	#DIV/0!
Exceptionally high	2	5	3	2	0	#DIV/0!	#DIV/0!

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

Percentage of pie chart for each band

Site	Bedford Ouse	Kym	Ivel	Ouse	Ely Ouse	Stiffkey	Gipping
Exceptionally low	0	0	0	0	0	#DIV/0!	#DIV/0!
Notably low	0	0	0	0	7	#DIV/0!	#DIV/0!
Below normal	0	0	0	0	30	#DIV/0!	#DIV/0!
Normal	45	50	8	42	32	#DIV/0!	#DIV/0!
Above normal	16	32	45	18	9	#DIV/0!	#DIV/0!
Notably high	34	15	15	32	18	#DIV/0!	#DIV/0!
Exceptionally high	5	3	32	8	5	#DIV/0!	#DIV/0!

9.4.3 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	#DIV/0!	0.0	0.0	0.0	0.0
Notably low	0.0	0.0	0.0	#DIV/0!	0.0	0.0	0.0	0.0
Below normal	0.0	0.0	12.8	#DIV/0!	11.1	0.0	48.7	0.0
Normal	4.9	88.1	76.9	#DIV/0!	74.1	91.8	43.6	34.5
Above normal	29.5	10.2	5.1	#DIV/0!	7.4	4.1	7.7	44.8
Notably high	55.7	0.0	5.1	#DIV/0!	7.4	2.0	0.0	19.0
Exceptionally high	9.8	1.7	0.0	#DIV/0!	0.0	2.0	0.0	1.7

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

Percentage of pie chart for each band

Site	Therfield Rectory	Redlands Hall	Newmarket	Washpit Farm	Bircham Newton	Kenninghall	Bury St Edmunds	Smeetham
Exceptionally low	#DIV/0!	1.7	11.9	#DIV/0!	7.4	0.0	0.0	0.0
Notably low	#DIV/0!	11.9	7.1	#DIV/0!	11.1	18.4	20.5	17.2
Below normal	#DIV/0!	16.9	16.7	#DIV/0!	7.4	20.4	17.9	6.9
Normal	#DIV/0!	42.4	28.6	#DIV/0!	51.9	36.7	35.9	27.6
Above normal	#DIV/0!	13.6	7.1	#DIV/0!	0.0	10.2	7.7	17.2
Notably high	#DIV/0!	8.5	11.9	#DIV/0!	0.0	8.2	10.3	15.5
Exceptionally high	#DIV/0!	5.1	16.7	#DIV/0!	22.2	6.1	7.7	15.5