

Monthly water situation report: England

1 Summary - January 2023

Monthly rainfall totals in January were above average in the majority of catchments across England. Soil moisture deficits remained low across England at the end of January as is expected at this time of year. Following another month of above average rainfall in many areas river flows increased at almost all the indicator sites and most sites were above normal or higher for the time of year. As seasonal recharge of aquifers continued groundwater levels increased at almost all indicator sites, with groundwater levels at the end of January normal or higher in many places. Reservoir stocks in January increased at three quarters of the reservoir and reservoir groups we report on, but as reservoirs continued to recover from dry conditions last year almost half remained below normal or lower for the time of year.

1.1 Rainfall

The January rainfall total for England was 90.5mm which represents 113% of the 1961 to 1990 long term average (LTA) for the time of year (109% of the 1991 to 2020 LTA). At the regional scale, rainfall was slightly below average in east, central and north-east England, while north-west, south-west and south-east England received above average rainfall in January. Three quarters of catchments received above average rainfall during January. The wettest hydrological area was Kent in south-east England which received 159% of LTA rainfall for January. The driest hydrological area was the Tweed in north-east England with 49% of LTA rainfall for January. (Figure 2.1)

January rainfall totals were classed as normal or higher for almost all catchments across England. Only 4 were classed as below normal for the time of year, including 3 in north-east England. Tweed in the far north-east of England was the only catchment classed as notably low for the time of year. At a regional scale, January rainfall totals were normal in most regions and for England as a whole. North-west and south-west England were above normal for the time of year. (Figure 2.2)

January was the fifth consecutive month of above average rainfall for England as a whole. The last 3 months were wetter than average for much of the country, with notably high and exceptionally high totals in many catchments in the south of England, and above normal total elsewhere. The 6 month cumulative rainfall totals show a similar pattern, with notably high or exceptionally high totals in the south. The 12 month cumulative rainfall totals were classed as normal for most of the country, although some in the east of England were below normal or lower and some on the south coast and in the north-west were above normal. (Figure 2.3)

1.2 Soil moisture deficit

Soil moisture deficits (SMD) remained low across England at the end of January, with soils wet across most of the country as would be expected for the time of year. (Figure 3.1)

End of January SMD values across the majority of the country were close to the LTA for the time of year. At a regional scale, the end of January SMD for most regions were typical for the time of year. (Figure 3.2)

1.3 River flows

January monthly mean river flows increased compared to December at all except 2 indicator sites we report on. Two thirds of sites were above normal or higher for the time of year, including nine sites that were exceptionally high for the time of year. Eight of these sites were in south-west England where all sites were above normal or higher. All the remaining sites were normal for the time for the year except the River Burn at Burnham which was below normal. (Figure 4.1)

Monthly mean flows for all the regional index sites were classed as normal or higher for the time of year. Flows on the River Thames at Kingston, the South Tyne at Haydon Bridge and the Bedford Ouse at Offord were normal for the time of year. The River Dove at Marston-on-Dove and the Great Stour at Horton were both above normal for the time of year, with the River Dove having moved from being below normal in December. The River Lune at Caton was notably high and the River Exe at Thorverton in south-west England was exceptionally high. (Figure 4.2)

1.4 Groundwater levels

At the end of January, groundwater levels increased at all but 4 of the reported indicator sites as wet soils and above average rainfall in many areas helped aquifers continue their seasonal recharge. Just under half were classed as above normal or higher. A third of end of month groundwater levels were classed as normal for the time of year. Four sites were classed as being below normal for the time of year. (Figure 5.1)

The major aquifer index sites showed a varied picture at the end of January, ranging from below normal to notably high levels. Stonor Park in the South West Chilterns Chalk remained at below normal levels, despite quick seasonal recharge since the end of December. In contrast Little Bucket in the East Kent Stour Chalk and Chilgrove in the Chichester Chalk were above normal and notably high respectively. Groundwater levels were also high in sandstone aquifers, with Skirwith in the Carlisle Basin and Eden Valley Sandstone and Weir Farm in the Bridgnorth Sandstone above normal and notably high respectively. Normal groundwater levels were reported at Dalton Estate Well in the Hull and East Riding Chalk, at Redlands Hall in the Cam and Ely Ouse Chalk and at Jackaments Bottom in the Burford Jurassic Limestone. (Figure 5.2)

1.5 Reservoir storage

At the end of January reservoir stocks had increased at three-quarters of the reservoirs and reservoir groups that we report on. Three reservoirs or reservoir groups saw an increase of more than 20% in comparison to the end of December. The largest stock increases were at Stithians and Wimbleball in south-west England which increased by 30% and 31% respectively. In contrast 2 reservoirs or reservoir groups have seen no change in storage and

5 others recorded a reduction in storage at the end of January. Just under half of the reservoirs or reservoir groups were classed as below normal or lower, with Colliford in the south-west remaining at exceptionally low levels. The Dee reservoirs which supply north-west England are undergoing reservoir safety work, meaning storage is lower than would be expected for the time of year. (Figure 6.1)

At the regional scale, total reservoir stocks ranged from 76% in south-west England to 92% in north-east England. Total reservoir stocks for England were at 88% of total capacity at the end of January. (Figure 6.2)

1.6 Forward look

Early February is dominated by dry weather mixed with sunny spells. The settled conditions will continue, however wetter and windier conditions are forecast to return during towards the end of the month. Temperatures are forecast to be milder than average for February.

For the three month period from February to April there is an increased chance of mild conditions. There is an increased likelihood of heavy rain and strong winds during this period. There is also a slight increase in the chance that this period as a whole will be wetter than average.

1.7 Projections for river flows at key sites

By the end of March 2023 river flows have a greater likelihood of being above normal across most of England although central and north-west England river flows have a greater chance of being normal. By the end of September 2023 river flows have an increased chance of being above normal in all regions except in the central and north western areas where river flows are most likely to be normal.

For scenario based projections of cumulative river flows at key sites by March 2023 see Figure 7.1.

For scenario based projections of cumulative river flows at key sites by September 2023 see Figure 7.2.

For probabilistic ensemble projections of cumulative river flows at key sites by March 2023 see Figure 7.3.

For probabilistic ensemble projections of cumulative river flows at key sites by September 2023 see Figure 7.4.

1.8 Projections for groundwater levels in key aquifers

By the end of March 2023 groundwater levels have a higher than expected chance of being normal or higher in all regions except north-west England, where groundwater levels have an increased likelihood of being below normal. By the end of September 2023 groundwater levels have a higher than expected chance of being above normal in east and central England. In north-west and north-east England there is a higher than expected chance of groundwater

levels being below normal. Groundwater levels in the south-west and south-east have a higher than expected chance of being normal by the end of September 2023.

For scenario based projections of groundwater levels in key aquifers in March 2023 see Figure 7.5.

For scenario based projections of groundwater levels in key aquifers in September 2023 see Figure 7.6.

For probabilistic ensemble projections of groundwater levels in key aquifers in March 2023 see Figure 7.7.

For probabilistic ensemble projections of groundwater levels in key aquifers in September 2023 see Figure 7.8.

Author: National Water Resources Hydrology Team, Nationalhydrology@environment-agency.gov.uk

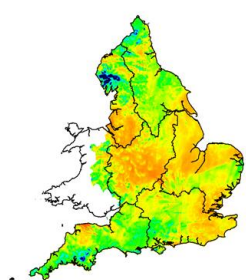
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2 Rainfall

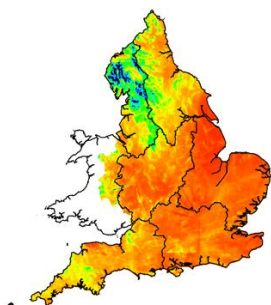
2.1 Rainfall map

Figure 2.1: Monthly rainfall across England and Wales for the past 11 months. UKPP radar data Note: Radar beam blockages in some regions may give anomalous totals in some areas.

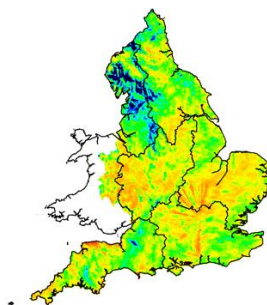
March 2022



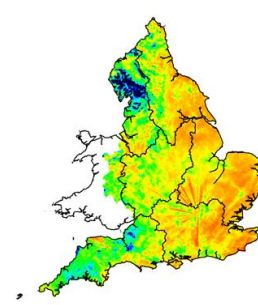
April 2022



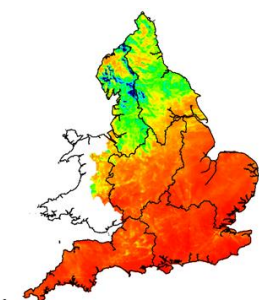
May 2022



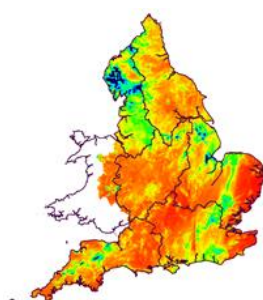
June 2022



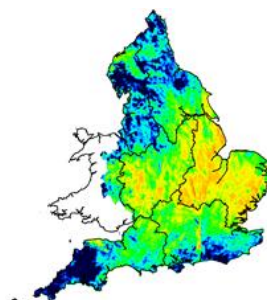
July 2022



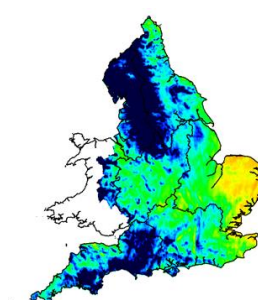
August 2022



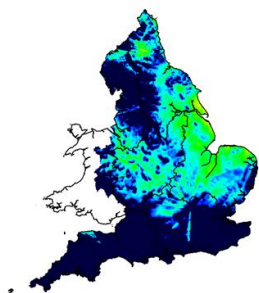
September 2022



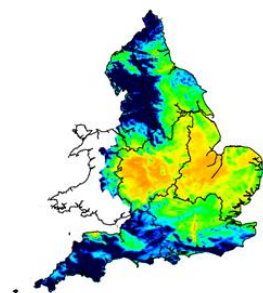
October 2022



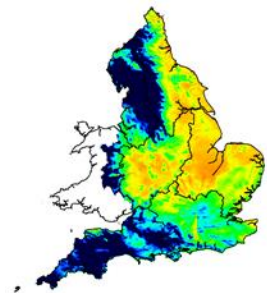
November 2022



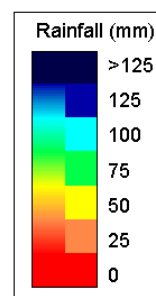
December 2022



January 2023

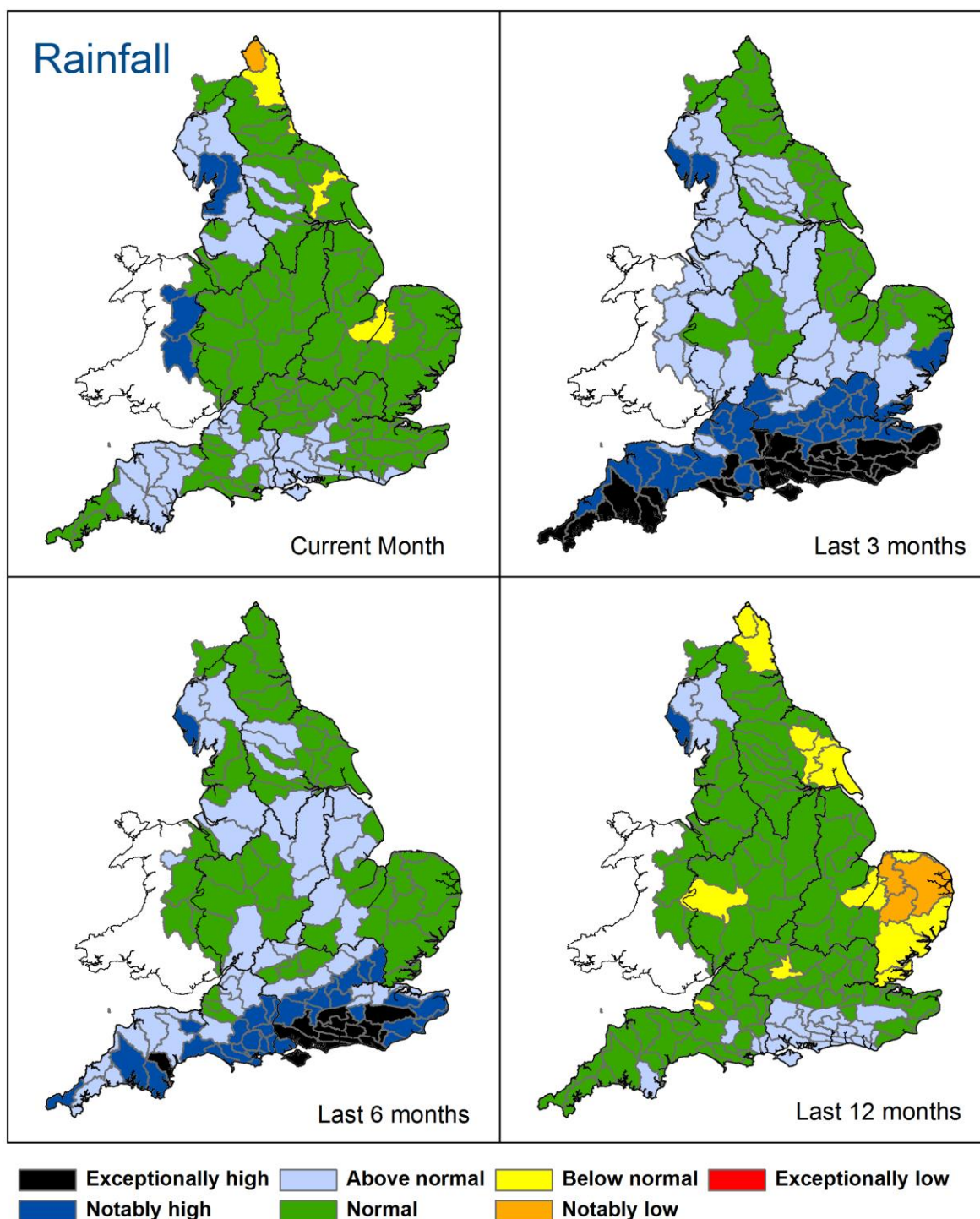


Map Legend



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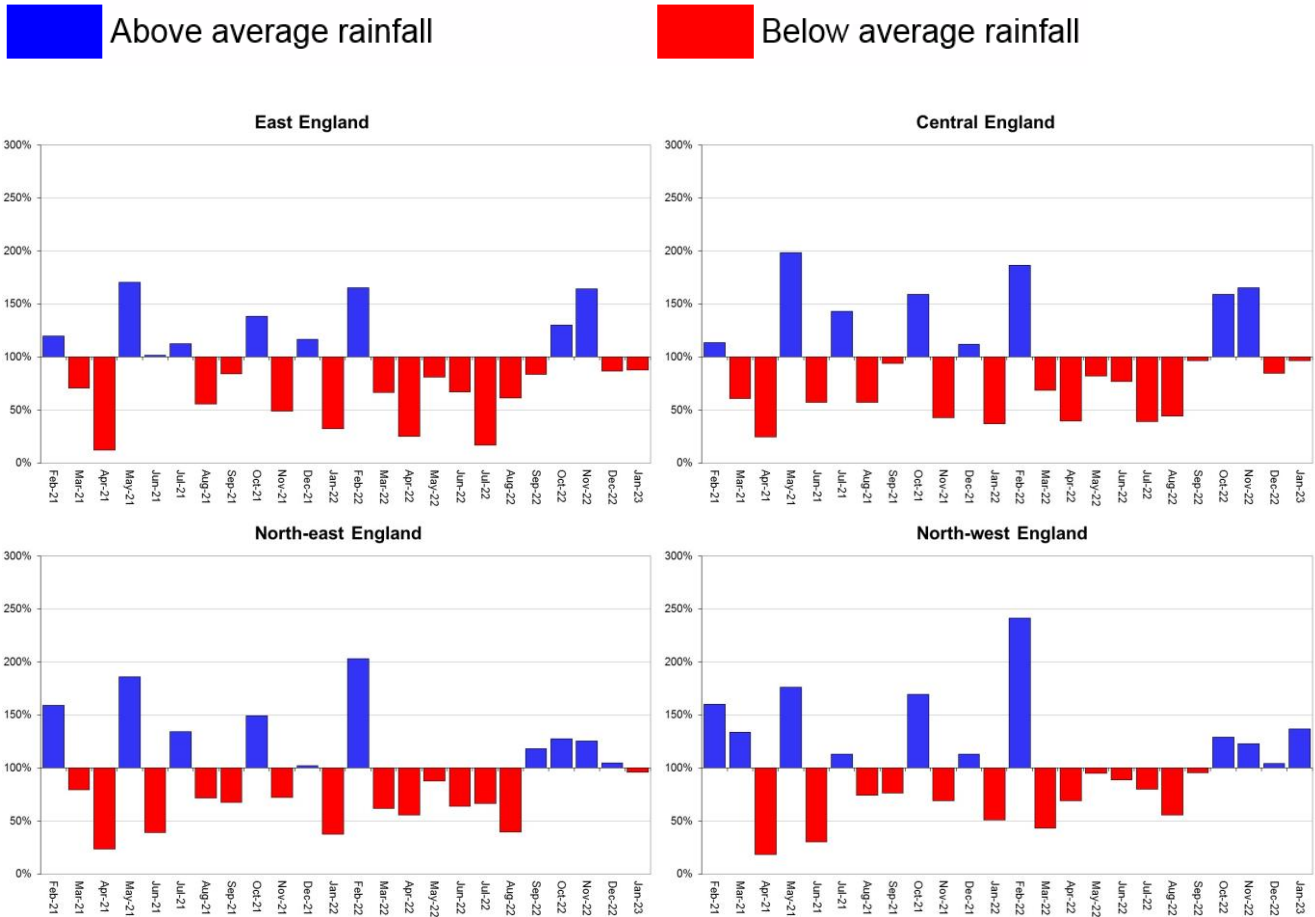
Figure 2.2: Total rainfall for hydrological areas across England for the current month (up to 31 January 2023), the last 3 months, the last 6 months, and the last 12 months, classed relative to an analysis of respective historic totals.



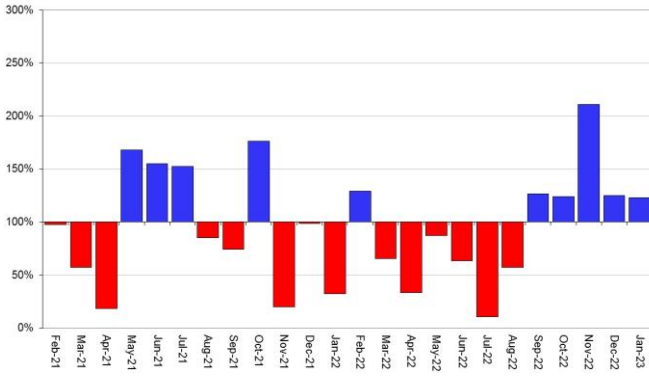
HadUK data based on the Met Office 1km gridded rainfall dataset derived from rain gauges (Source: Met Office. Crown copyright, 2023). Provisional data based on Environment Agency 1km gridded rainfall dataset derived from Environment Agency intensity rain gauges. Crown copyright. All rights reserved. Environment Agency, 100024198, 2023.

2.2 Rainfall charts

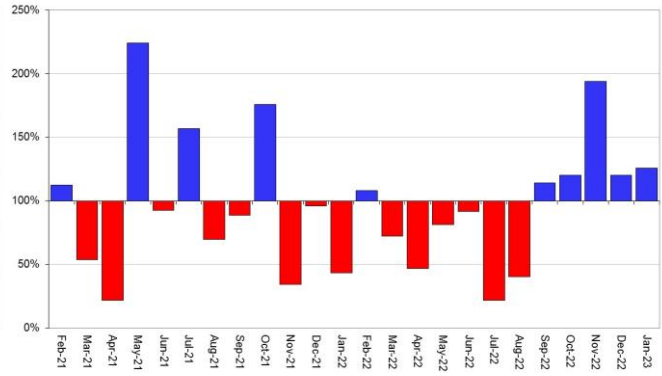
Figure 2.3: Monthly rainfall totals for the past 24 months as a percentage of the 1961 to 1990 long term average for each geographic region and for England.



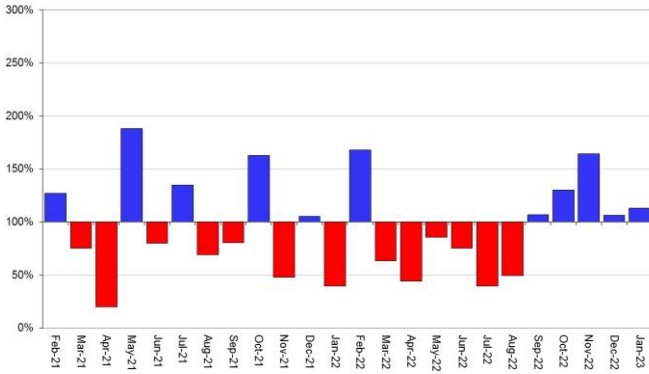
South-east England



South-west England



England



HadUK rainfall data. (Source: Met Office. Crown copyright, 2023).

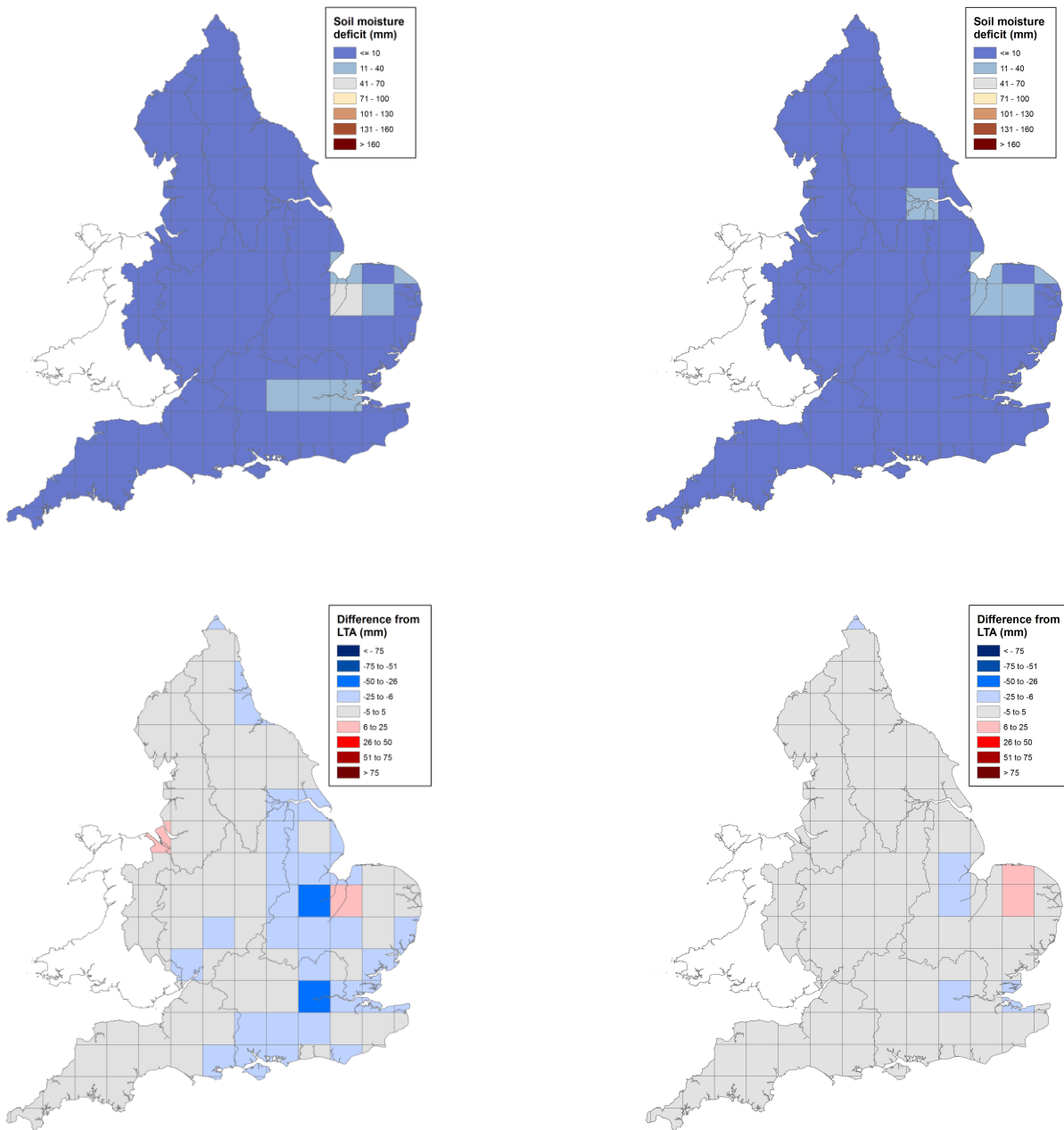
3 Soil moisture deficit

3.1 Soil moisture deficit map

Figure 3.1: Soil moisture deficits for weeks ending, 28 December 2022 (left panel) and 01 February 2023 (right panel). Top row shows actual soil moisture deficits (mm) and bottom row shows the difference (mm) of the actual from the 1961 to 1990 long term average soil moisture deficits. MORECS data for real land use.

End of December 2022

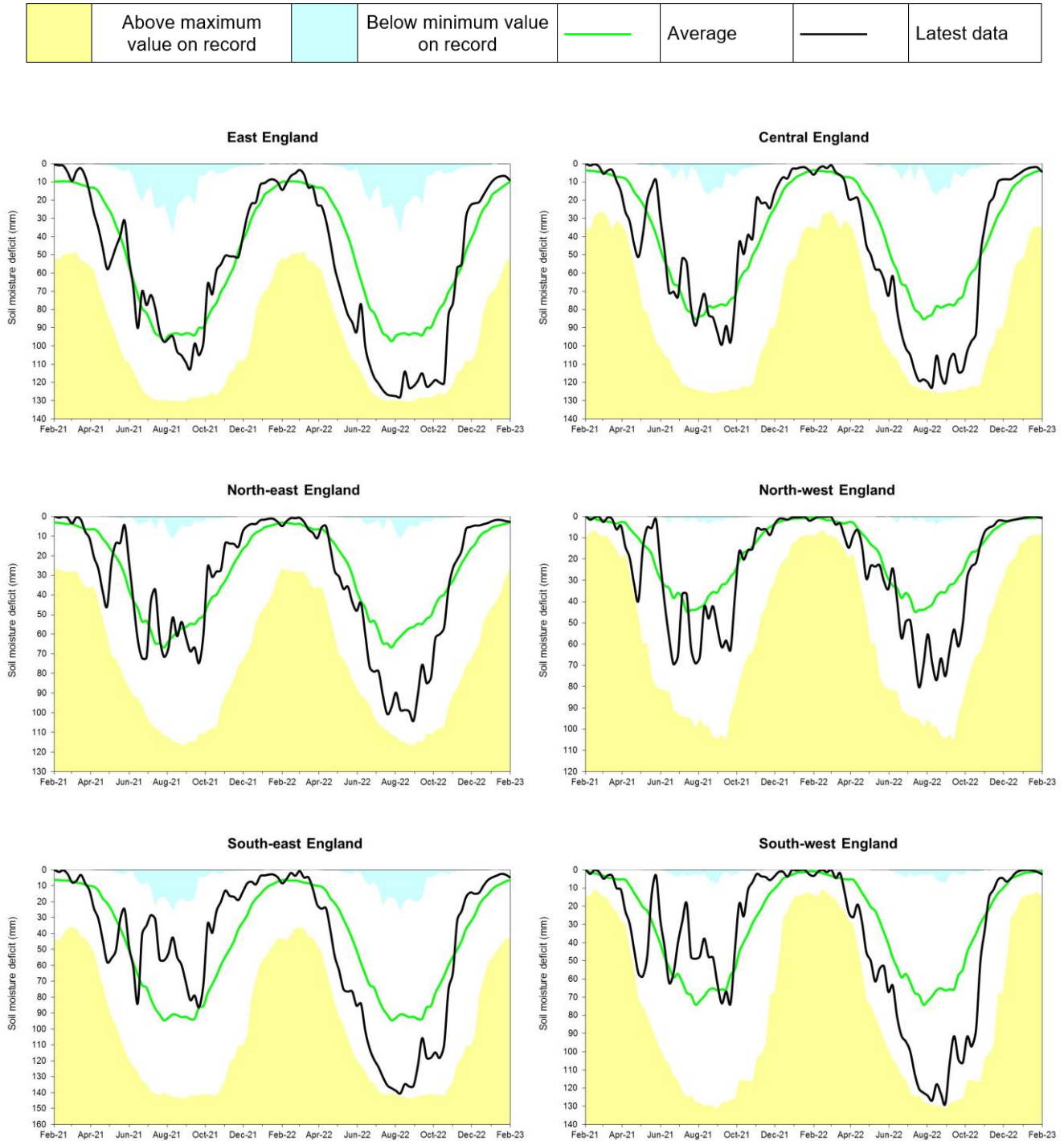
End of January 2023



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3.2 Soil moisture deficit charts

Figure 3.2: Latest soil moisture deficits for all geographic regions compared to maximum, minimum and 1961 to 1990 long term average. Weekly MORECS data for real land use.



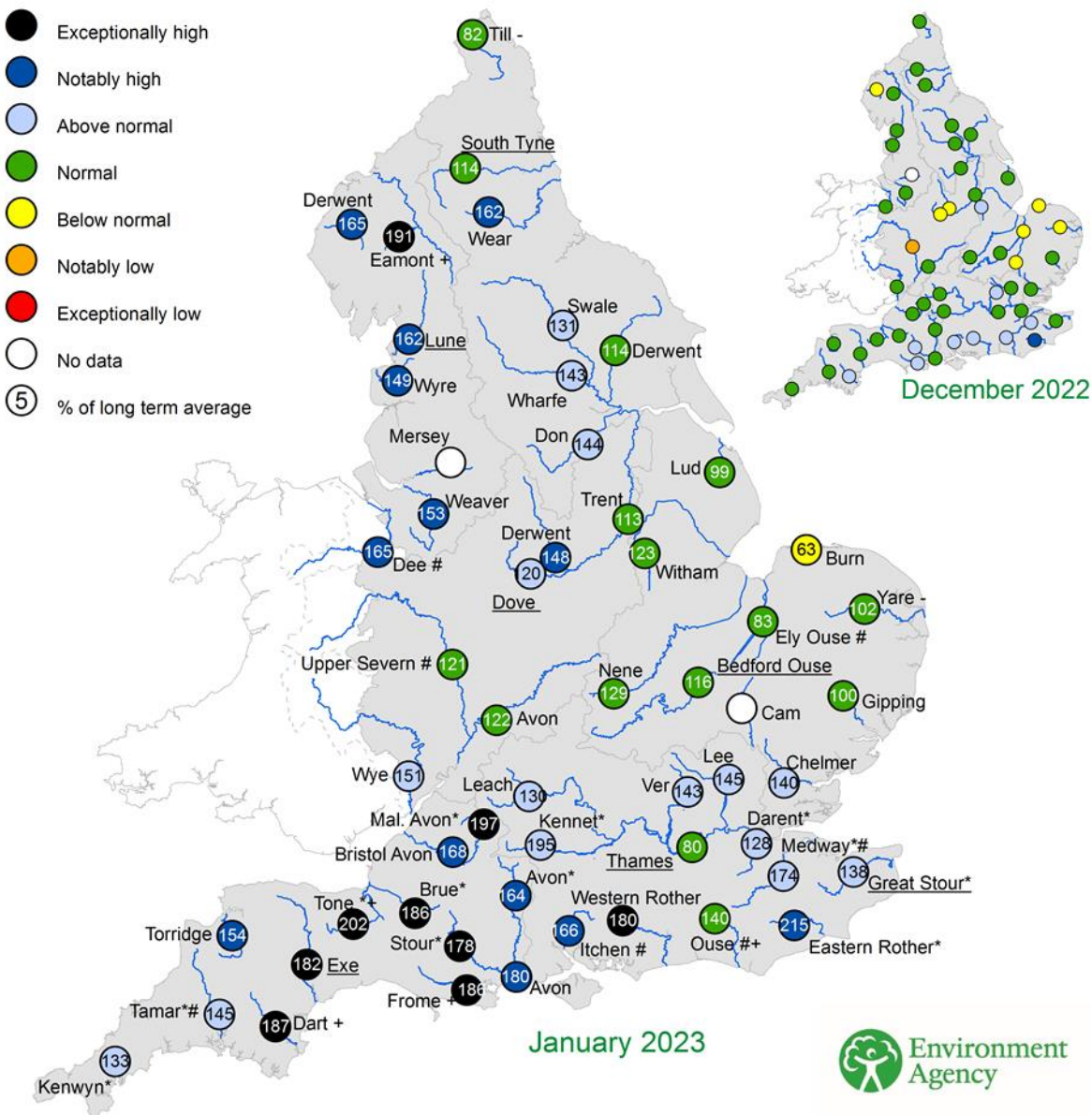
(Source: Met Office. Crown copyright, 2023).

4 River flows

4.1 River flow map

Figure 4.1: Monthly mean river flow for indicator sites for December 2022 and January 2023, expressed as a percentage of the respective long term average and classed relative to an analysis of historic December and January monthly means. Table available in the appendices with detailed information. Regional index sites are underlined and shown in the hydrographs in Figure 4.2.

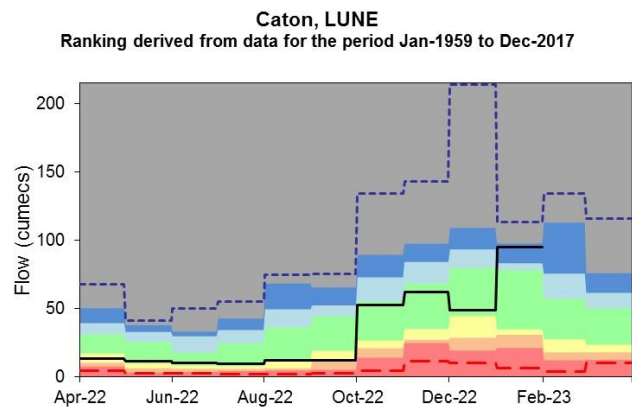
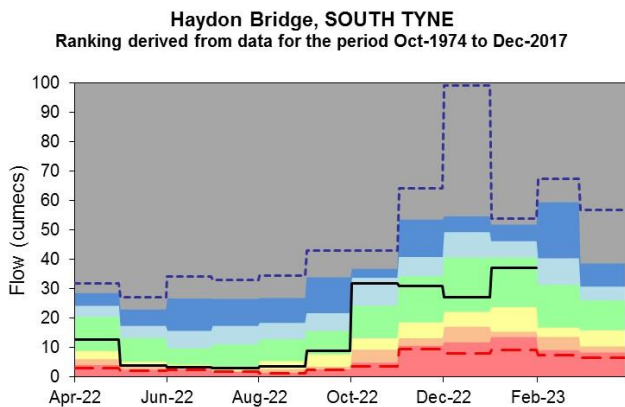
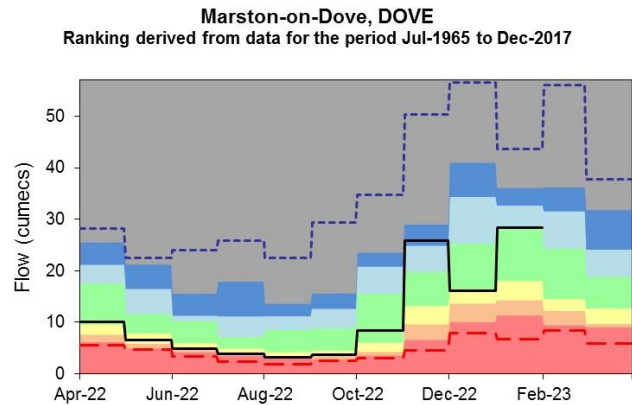
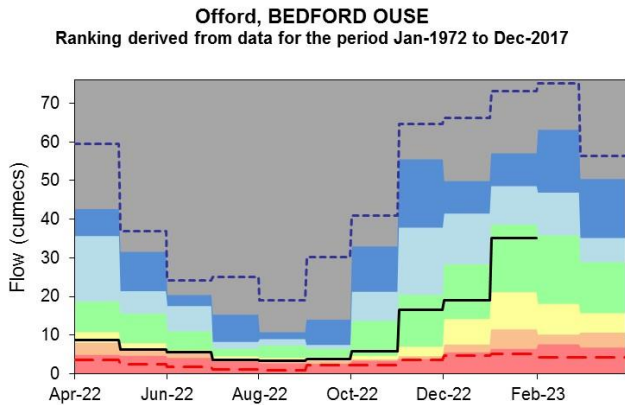
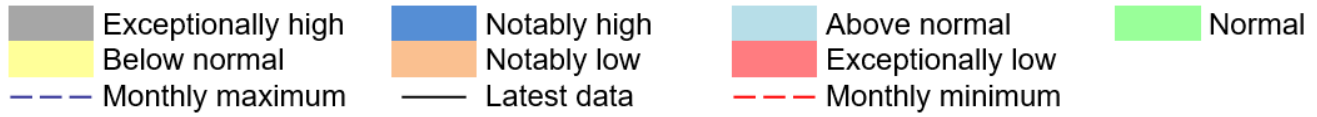
Naturalised flows are provided for the River Thames and the River Lee. + Monthly mean flow is the highest on record for the current month (note that record length varies between sites). *Flows may be overestimated at these sites – data should be treated with caution. # Flows may be impacted at these sites by water releases from upstream reservoirs.



(Source: Environment Agency). Crown copyright. All rights reserved. Environment Agency, 100024198, 2023.

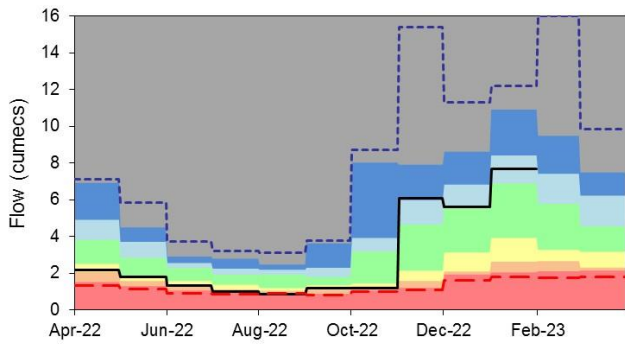
4.2 River flow charts

Figure 4.2: Monthly mean river flow for index sites over the past year for each geographic region, compared to an analysis of historic monthly mean flows and long term maximum and minimum flows.



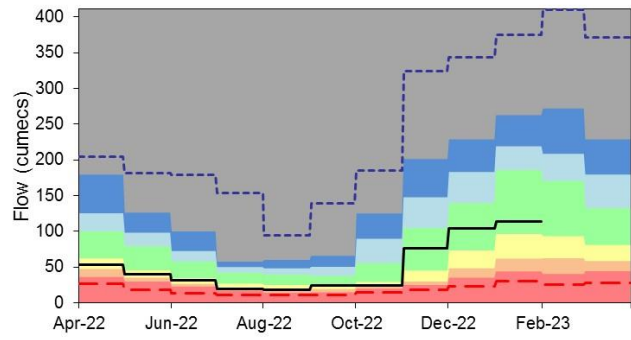
Horton, GREAT STOUR

Ranking derived from data for the period Oct-1964 to Dec-2017



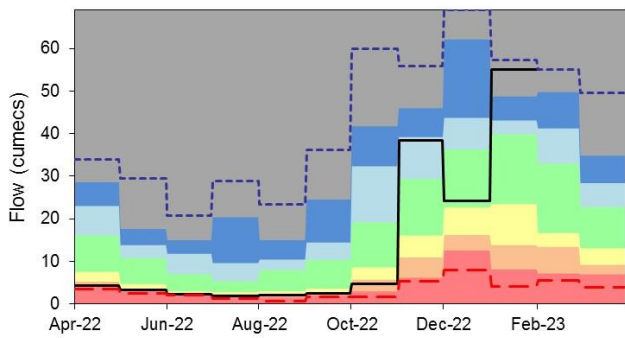
Kingston, THAMES

Ranking derived from data for the period Jan-1883 to Dec-2017



Thorverton, EXE

Ranking derived from data for the period Apr-1956 to Dec-2017



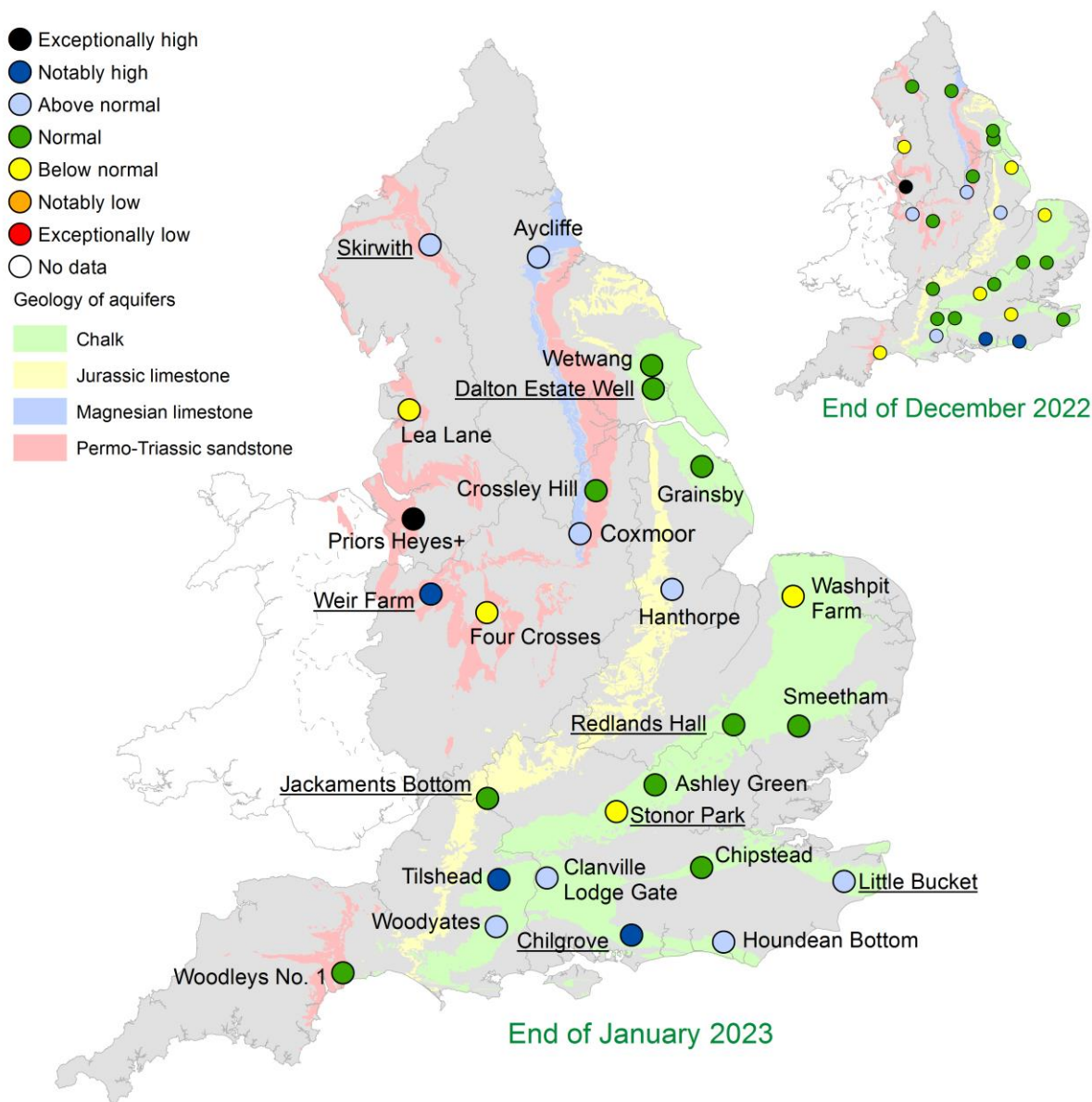
(Source: Environment Agency).

5 Groundwater levels

5.1 Groundwater levels map

Figure 5.1: Groundwater levels for indicator sites at the end of December 2022 and January 2023, classed relative to an analysis of respective historic December and January levels. Major aquifer index sites are underlined and shown in groundwater level charts in Figure 5.2.

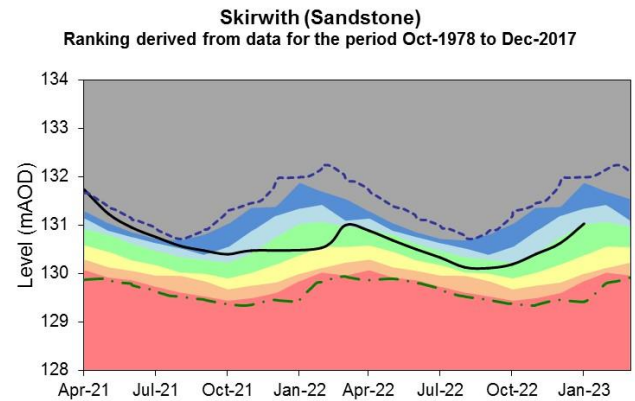
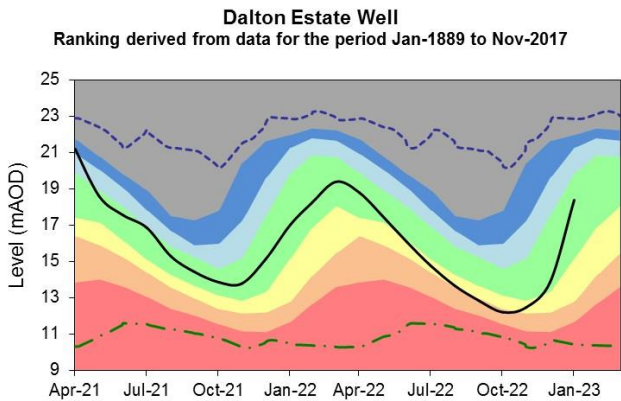
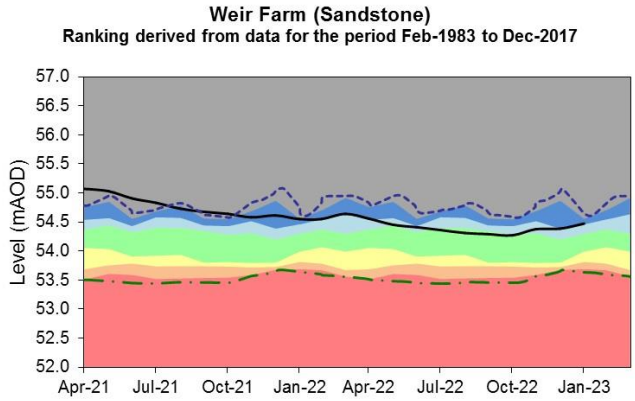
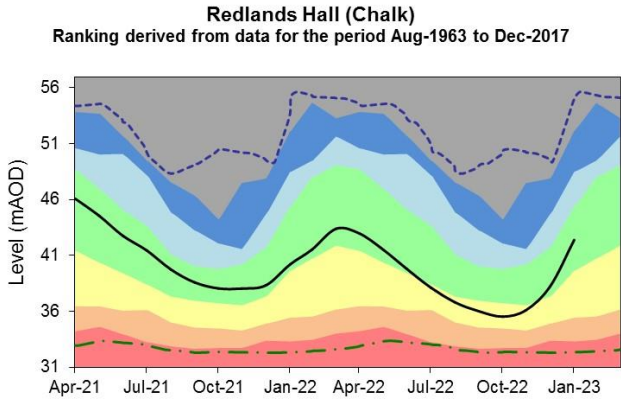
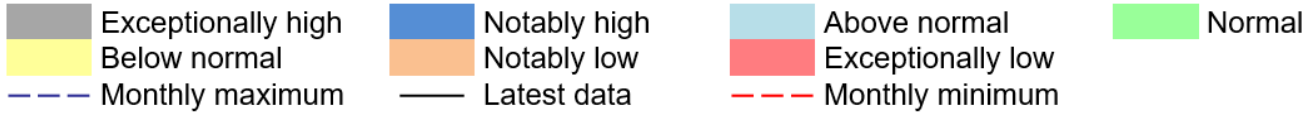
Redlands Hall and Aycliffe are manually dipped at different times during the month and so may not be fully representative of month end levels. Levels at Priors Heyes remain high compared to historic levels because the aquifer is recovering from the effects of historic abstraction.



(Source: Environment Agency). Geological map reproduced with kind permission from UK Groundwater Forum, BGS copyright NERC. Crown copyright. All rights reserved. Environment Agency, 100024198, 2023.

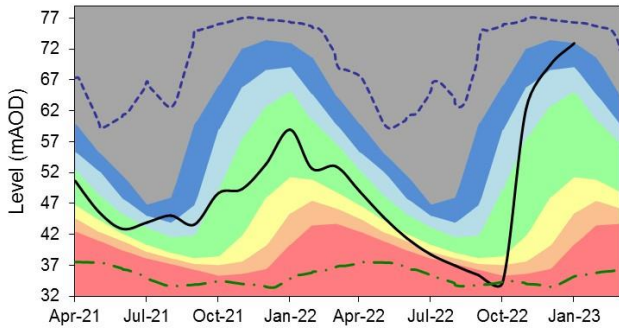
5.2 Groundwater level charts

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



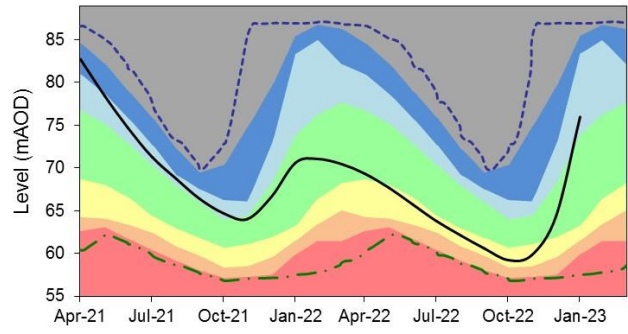
Chilgrove (Chalk)

Ranking derived from data for the period Feb-1836 to Dec-2017



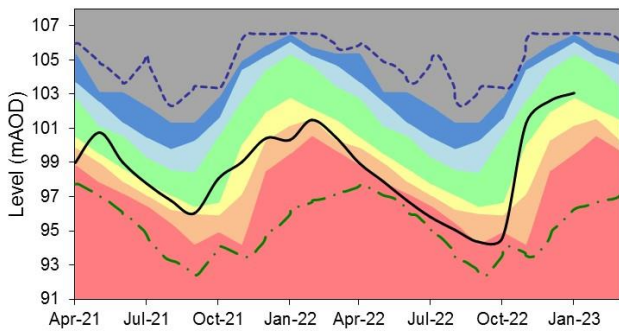
Little Bucket (Chalk)

Ranking derived from data for the period Jan-1971 to Dec-2017



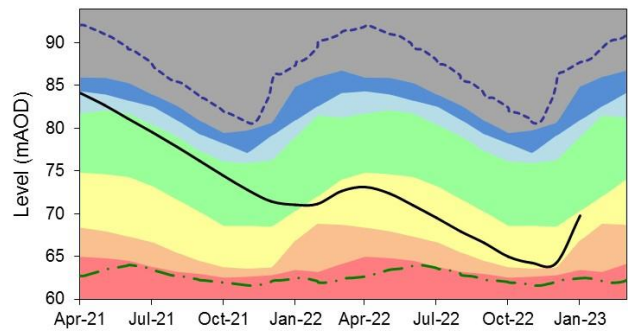
Jackaments Bottom (Jurassic Limestone)

Ranking derived from data for the period Jan-1974 to Dec-2017



Stonor Park (Chalk)

Ranking derived from data for the period May-1961 to Dec-2017

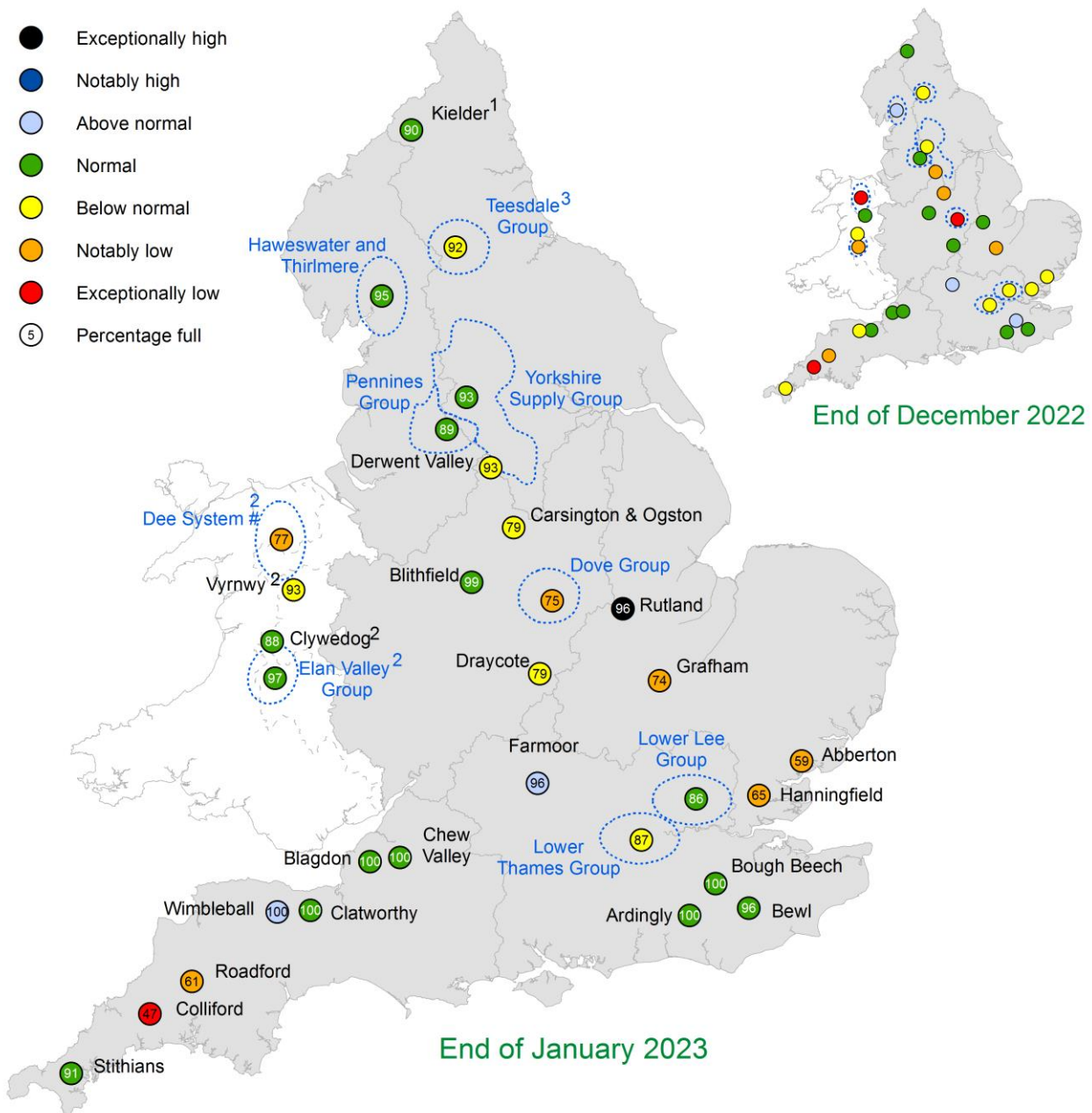


(Source: Environment Agency, 2023)

6 Reservoir storage

6.1 Reservoir storage map

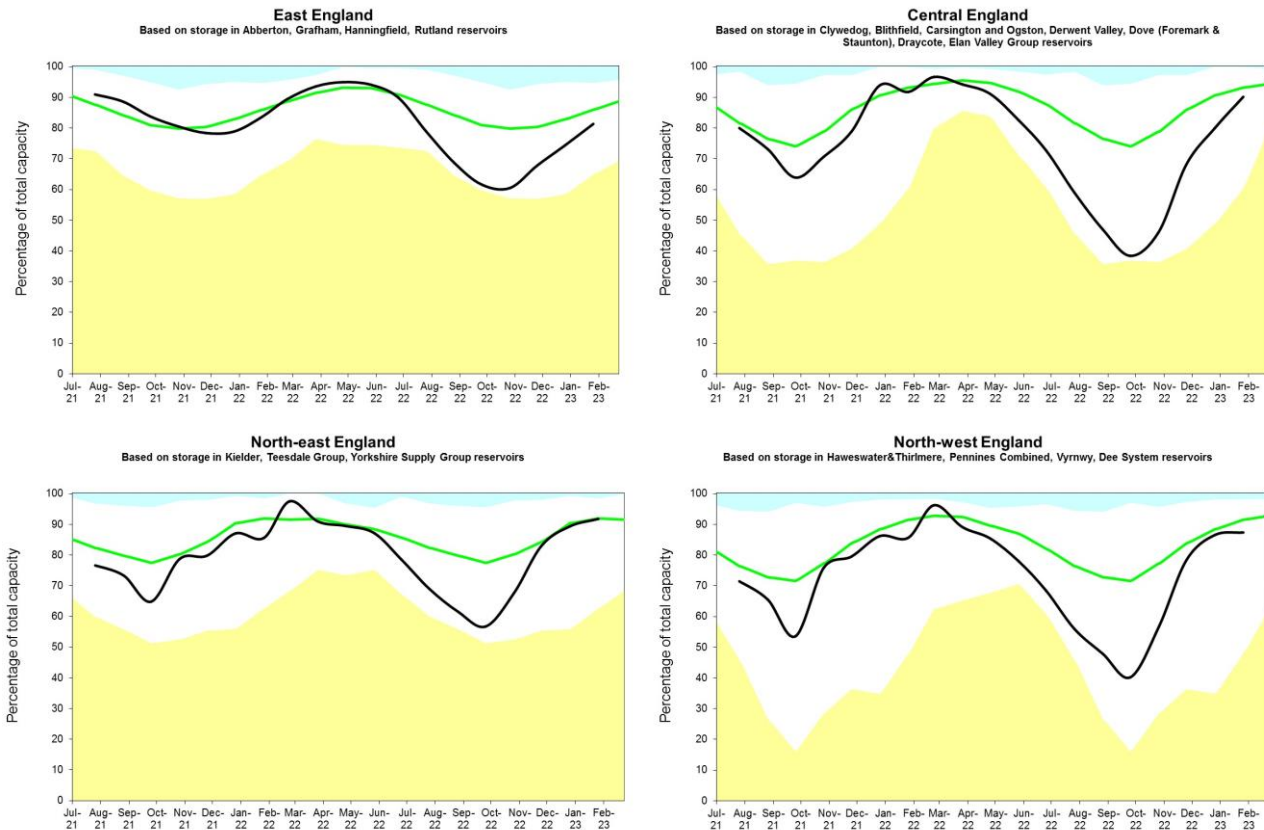
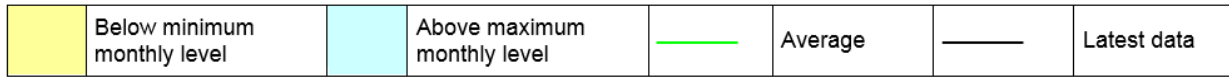
Figure 6.1: Reservoir stocks at key individual and groups of reservoirs at the end of December 2022 and January 2023 as a percentage of total capacity and classed relative to an analysis of historic December and January values respectively. Note: Classes shown may not necessarily relate to control curves or triggers for drought actions. As well as for public water supply, some reservoirs are drawn down to provide flood storage, river compensation flows or for reservoir safety inspections. In some cases current reservoir operating rules may differ from historic ones.

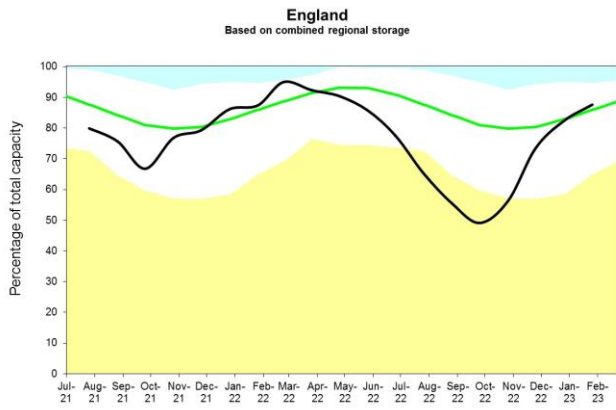
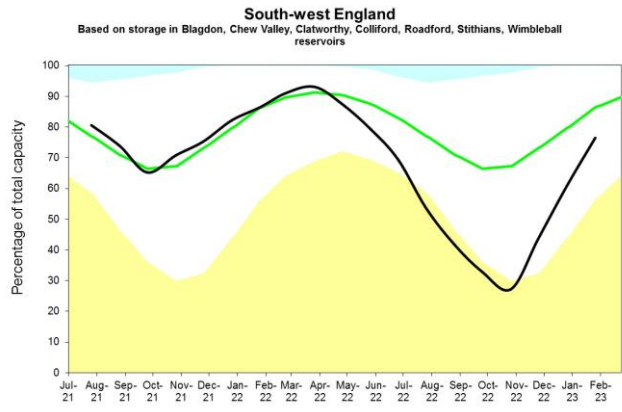
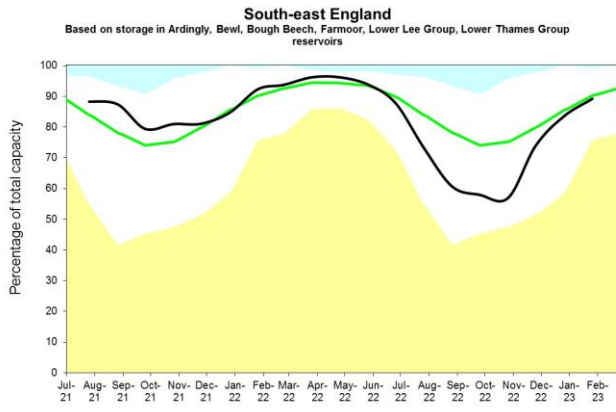


(Source: water companies). Crown copyright. All rights reserved. Environment Agency, 100024198, 2023

6.2 Reservoir storage charts

Figure 6.2: Regional reservoir stocks. End of month reservoir stocks compared to long term maximum, minimum and average stocks. Note: Historic records of individual reservoirs/reservoir groups making up the regional values vary in length.





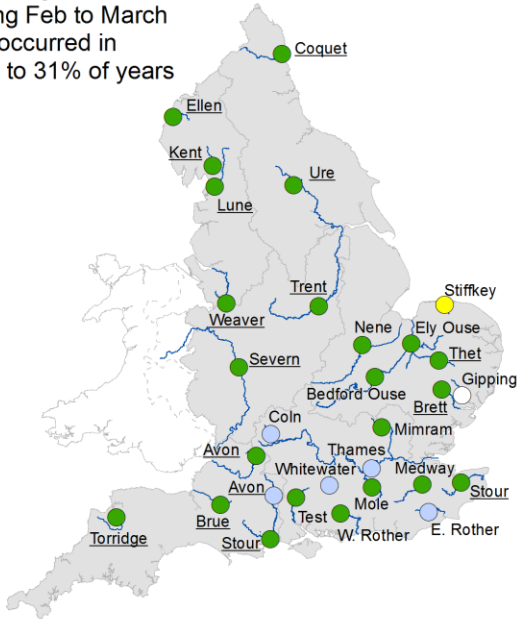
(Source: Water Companies).

7 Forward look

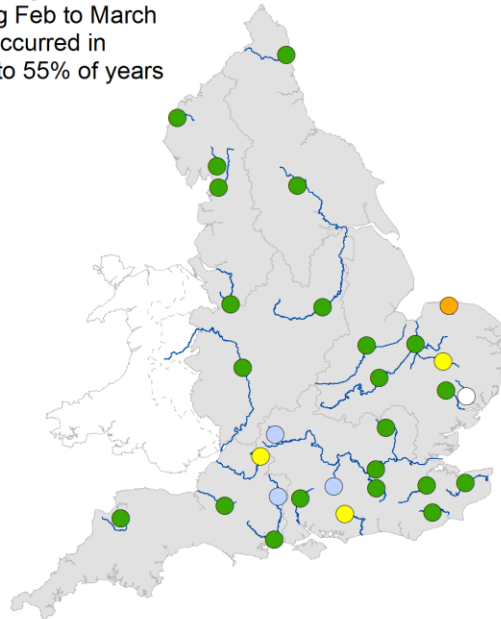
7.1 River flow

Figure 7.1: Projected river flows at key indicator sites up until the end of March 2023. Projections based on four scenarios: 120%, 100%, 80% and 60% of long term average rainfall between February 2023 and March 2023. Rainfall statistics based on occurrence in the historic record since 1891. Projections for underlined sites produced by CEH.

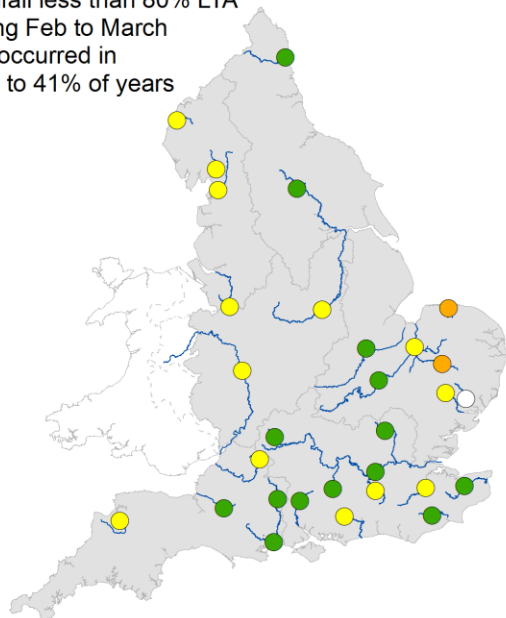
Rainfall greater than 120% LTA during Feb to March has occurred in 22% to 31% of years



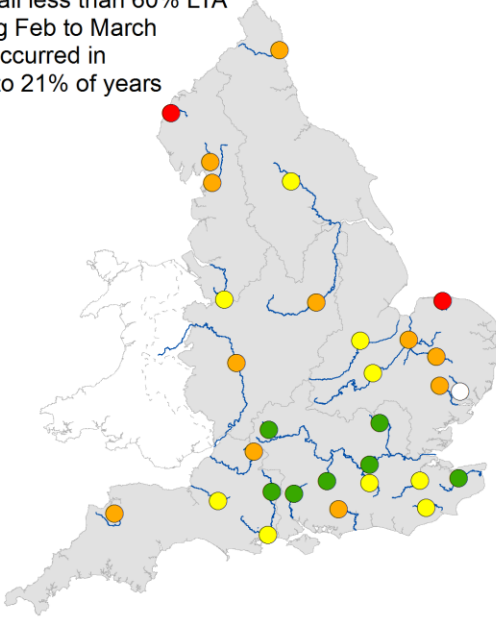
Rainfall greater than 100% LTA during Feb to March has occurred in 41% to 55% of years



Rainfall less than 80% LTA during Feb to March has occurred in 27% to 41% of years



Rainfall less than 60% LTA during Feb to March has occurred in 11% to 21% of years

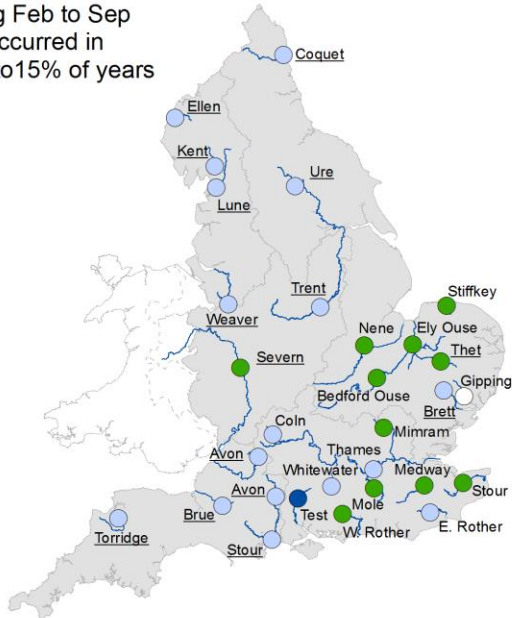


- Exceptionally high
- Above normal
- Below normal
- Exceptionally low
- Notably high
- Normal
- Notably low
- No data

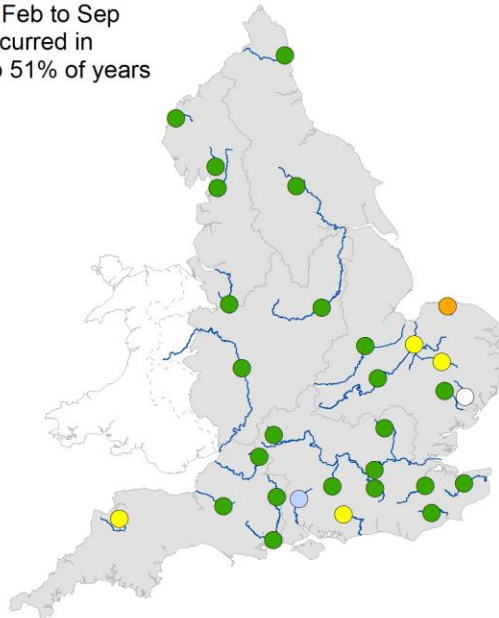
(Source: UK Centre for Ecology and Hydrology, Environment Agency).

Figure 7.2: Projected river flows at key indicator sites up until the end of September 2023. Projections based on four scenarios: 120%, 100%, 80% and 60% of long term average rainfall between February 2023 and September 2023. Rainfall statistics based on occurrence in the historic record since 1891. Projections for underlined sites produced by CEH.

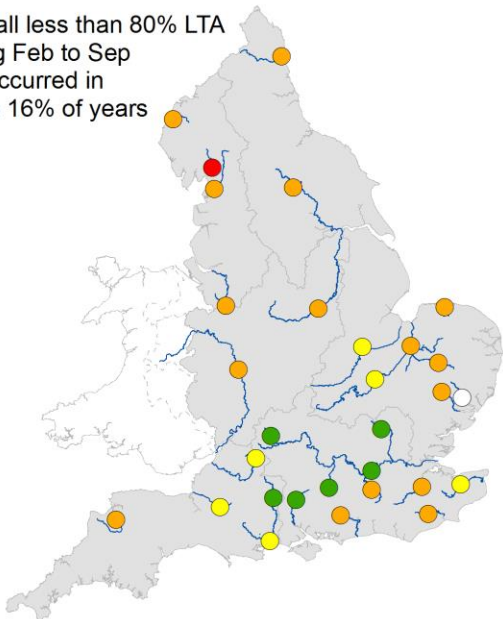
Rainfall greater than 120% LTA during Feb to Sep has occurred in 10% to 15% of years



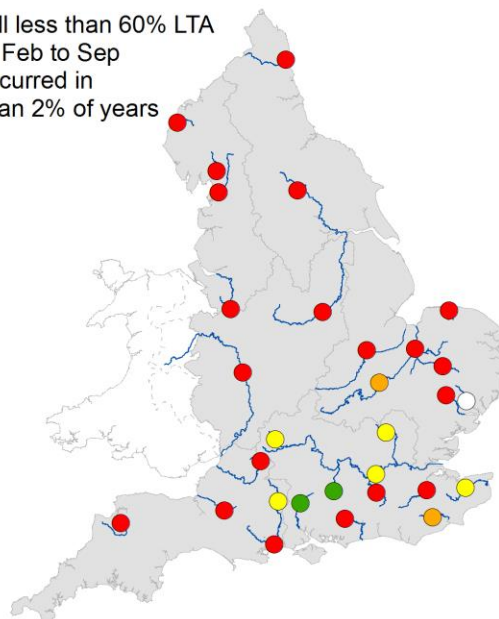
Rainfall greater than 100% LTA during Feb to Sep has occurred in 46% to 51% of years



Rainfall less than 80% LTA during Feb to Sep has occurred in 7% to 16% of years



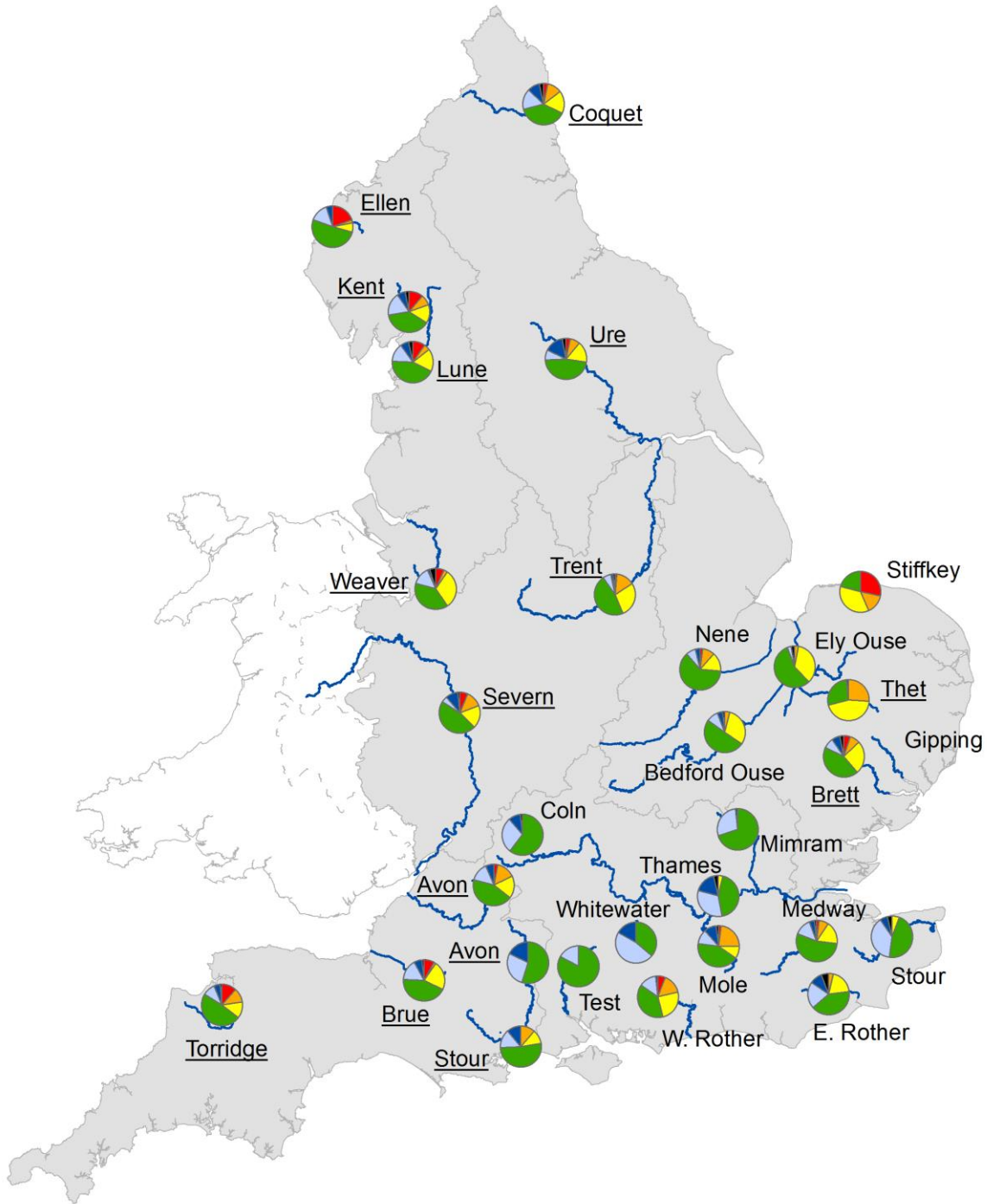
Rainfall less than 60% LTA during Feb to Sep has occurred in less than 2% of years



- Exceptionally high
- Above normal
- Below normal
- Exceptionally low
- Notably high
- Normal
- Notably low
- No data

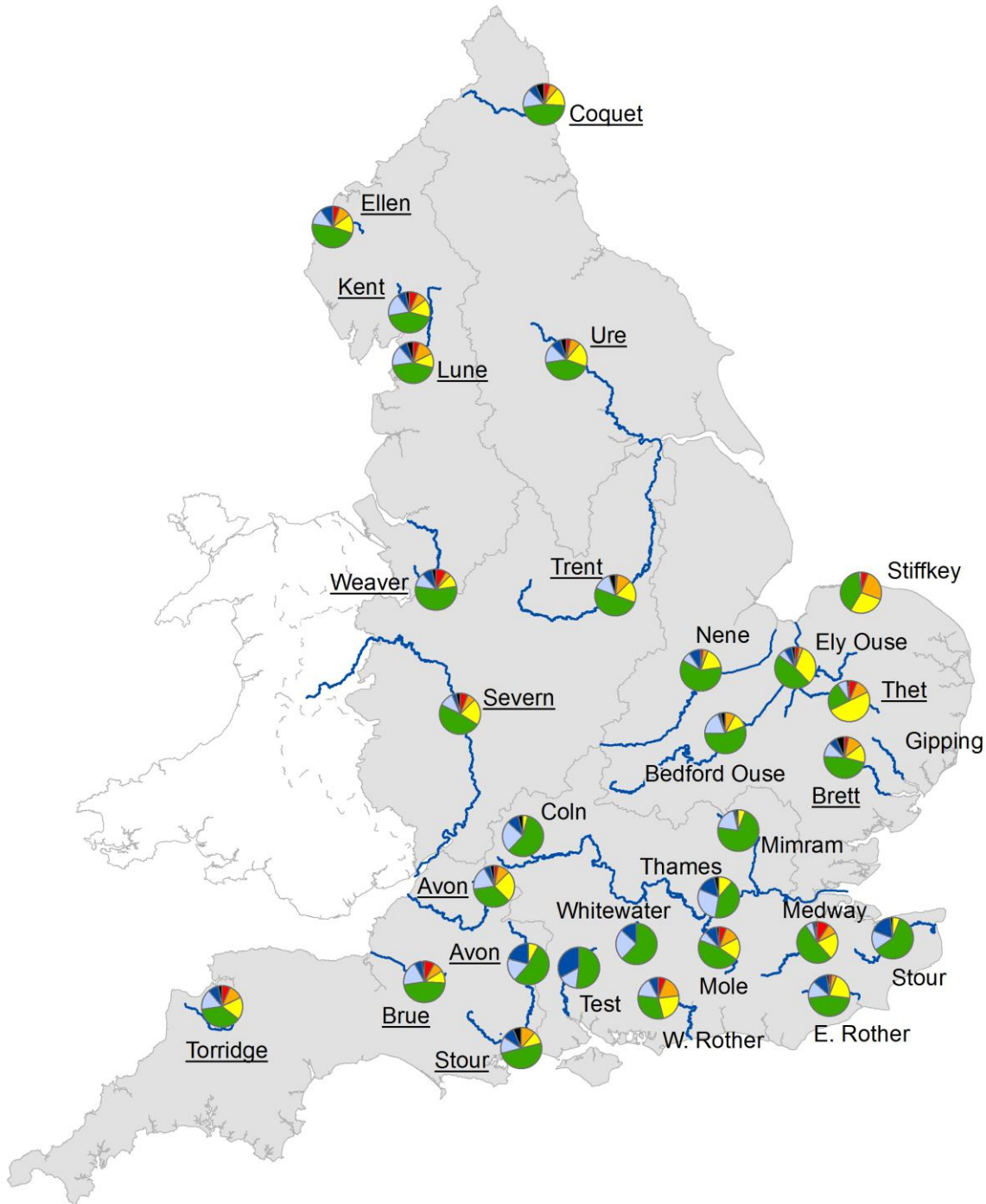
(Source: UK Centre for Ecology and Hydrology, Environment Agency)

Figure 7.3: Probabilistic ensemble projections of river flows at key indicator sites up until the end of March 2023. Pie charts indicate probability, based on climatology, of the surface water flow at each site being e.g. exceptionally low for the time of year. Projections for underlined sites produced by CEH.



(Source: UK Centre for Ecology and Hydrology, Environment Agency).

Figure 7.4: Probabilistic ensemble projections of river flows at key indicator sites up until the end of September 2023. Pie charts indicate probability, based on climatology, of the surface water flow at each site being e.g. exceptionally low for the time of year. Projections for underlined sites produced by CEH.

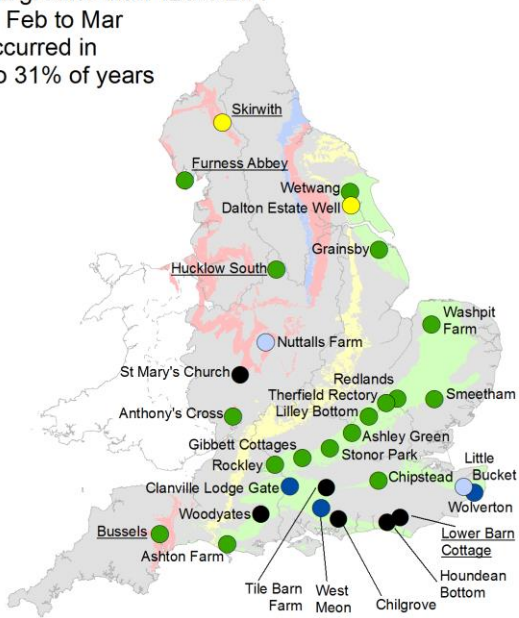


(Source: UK Centre for Ecology and Hydrology, Environment Agency).

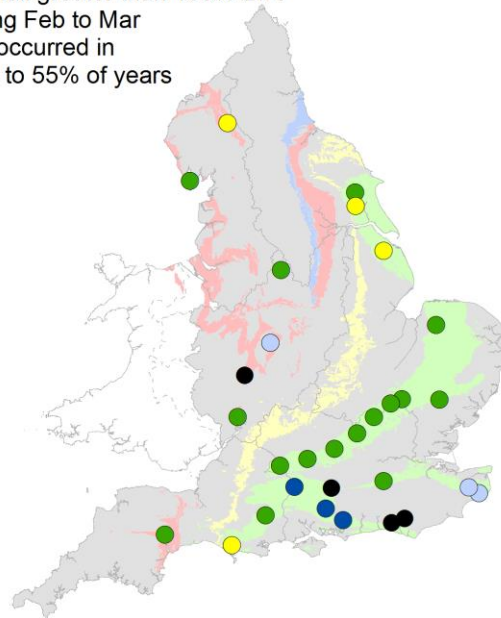
7.2 Groundwater

Figure 7.5: Projected groundwater levels at key indicator sites at the end of March 2023. Projections based on four scenarios: 120%, 100%, 80% and 60% of long term average between February 2023 and March 2023. Rainfall statistics based on occurrence in the historic record since 1891. Projections for underlined sites produced by BGS.

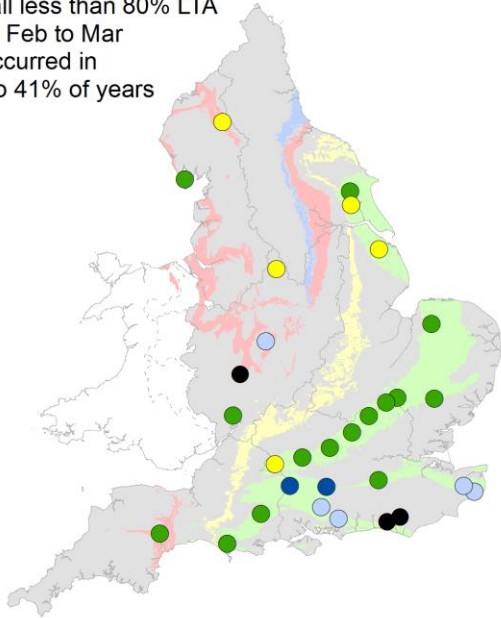
Rainfall greater than 120% LTA during Feb to Mar has occurred in 22% to 31% of years



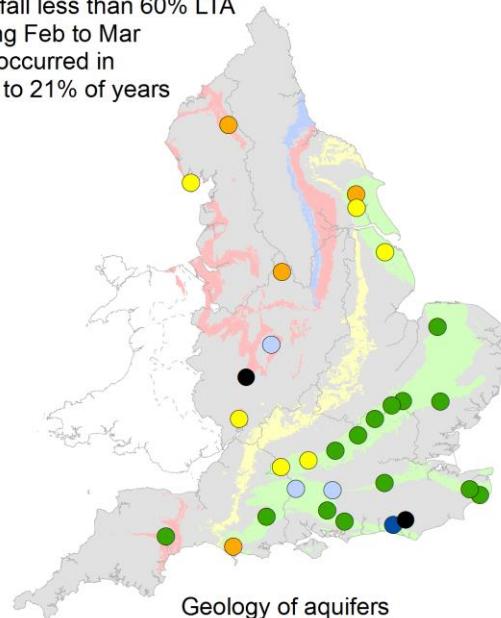
Rainfall greater than 100% LTA during Feb to Mar has occurred in 41% to 55% of years



Rainfall less than 80% LTA during Feb to Mar has occurred in 27% to 41% of years



Rainfall less than 60% LTA during Feb to Mar has occurred in 11% to 21% of years



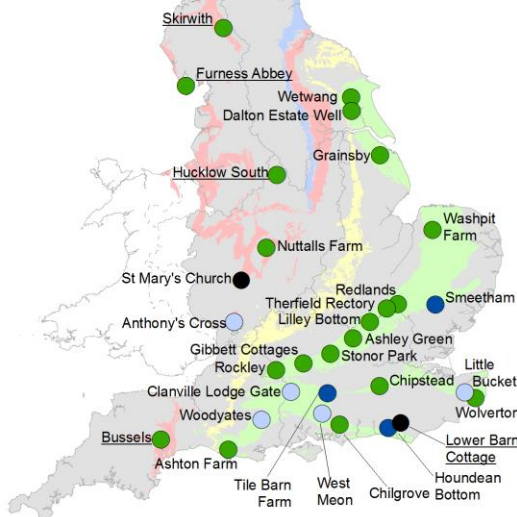
● Exceptionally high ● Notably high ● Above normal ● Normal
 ● Below normal ● Notably low ● Exceptionally low ○ No data

Geology of aquifers
 ■ Chalk
 ■ Jurassic limestone
 ■ Magnesian limestone
 ■ Permo-Triassic sandstones

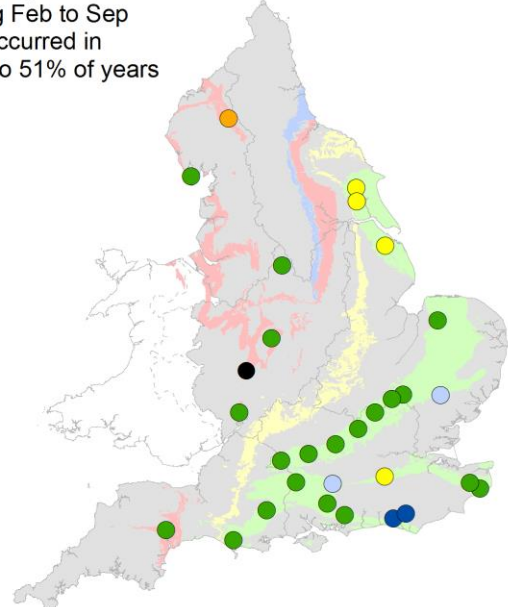
(Source: Environment Agency) Geological map reproduced with kind permission from UK Groundwater Forum BGS © NERC. Crown copyright all rights reserved. Environment Agency 100024198, 2023.

Figure 7.6: Projected groundwater levels at key indicator sites at the end of September 2023. Projections based on four scenarios: 120%, 100%, 80% and 60% of long term average rainfall between February 2023 and September 2023. Rainfall statistics based on occurrence in the historic record since 1891. Projections for underlined sites produced by BGS.

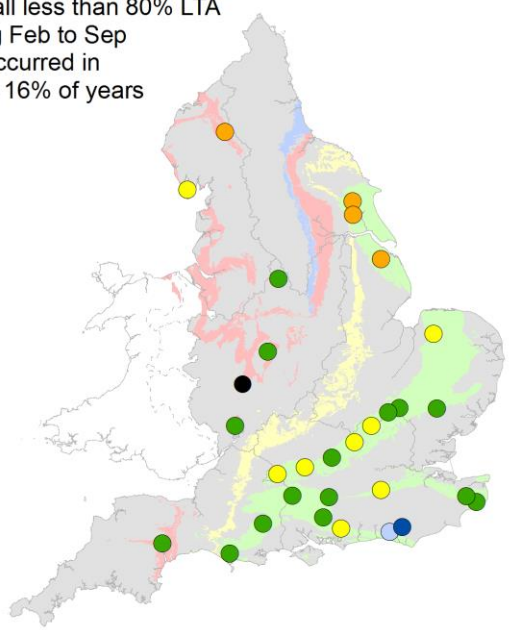
Rainfall greater than 120% LTA during Feb to Sep has occurred in 10% to 15% of years



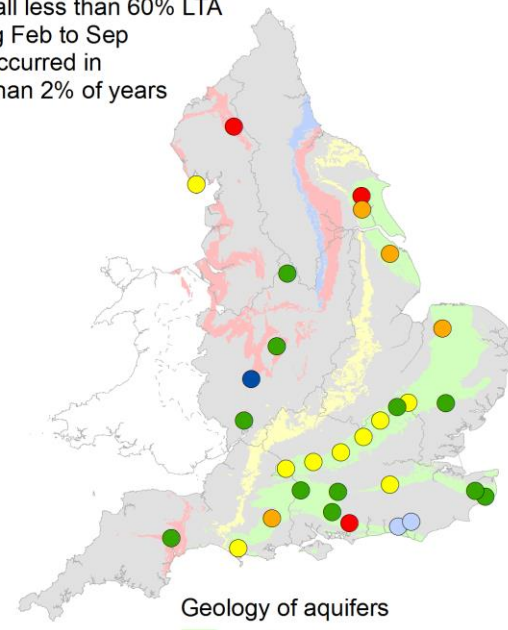
Rainfall greater than 100% LTA during Feb to Sep has occurred in 46% to 51% of years



Rainfall less than 80% LTA during Feb to Sep has occurred in 7% to 16% of years



Rainfall less than 60% LTA during Feb to Sep has occurred in less than 2% of years



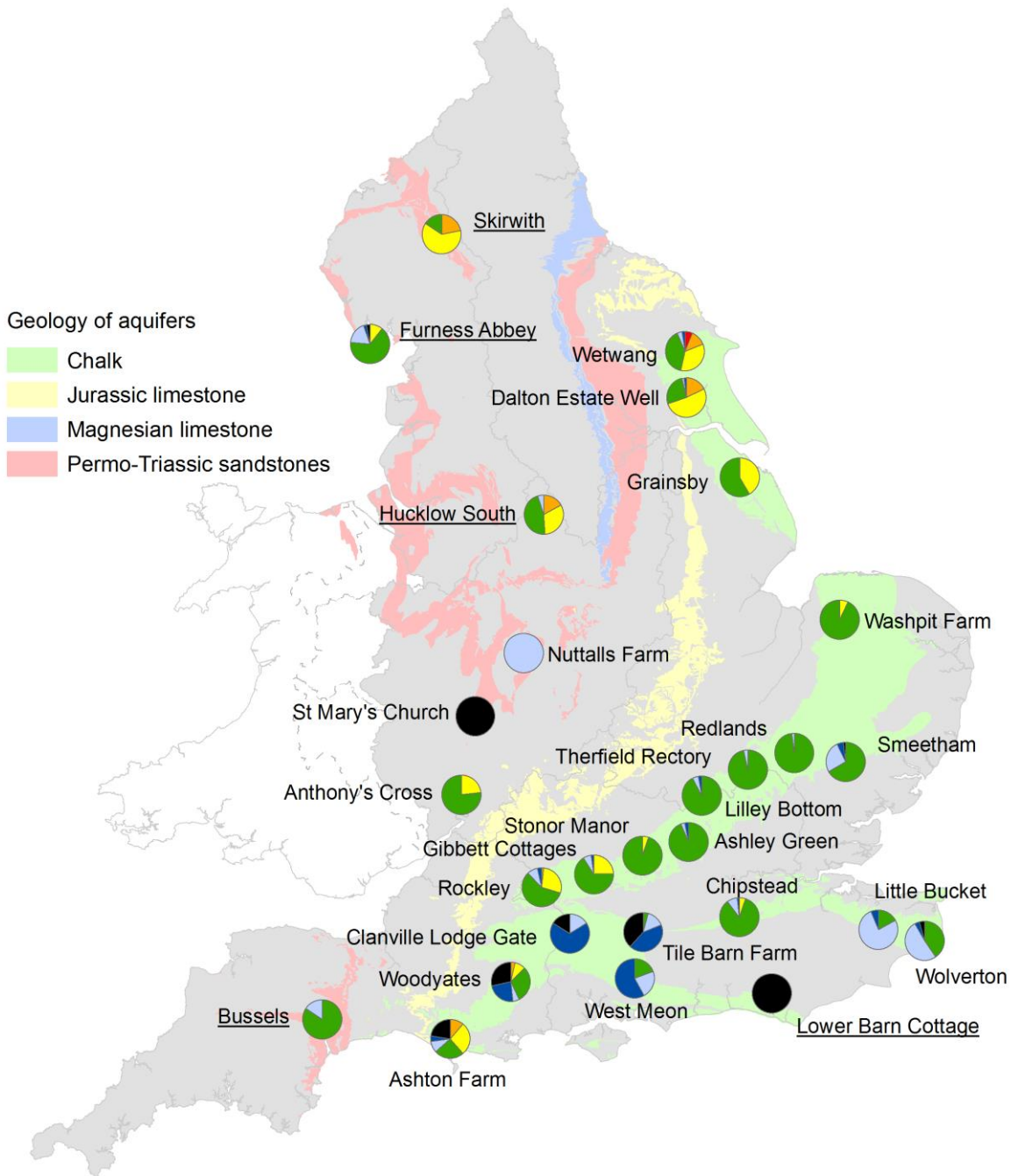
Geology of aquifers

- Chalk
- Jurassic limestone
- Magnesian limestone
- Permo-Triassic sandstones

Exceptionally high
 Notably high
 Above normal
 Normal
 Below normal
 Notably low
 Exceptionally low
 No data

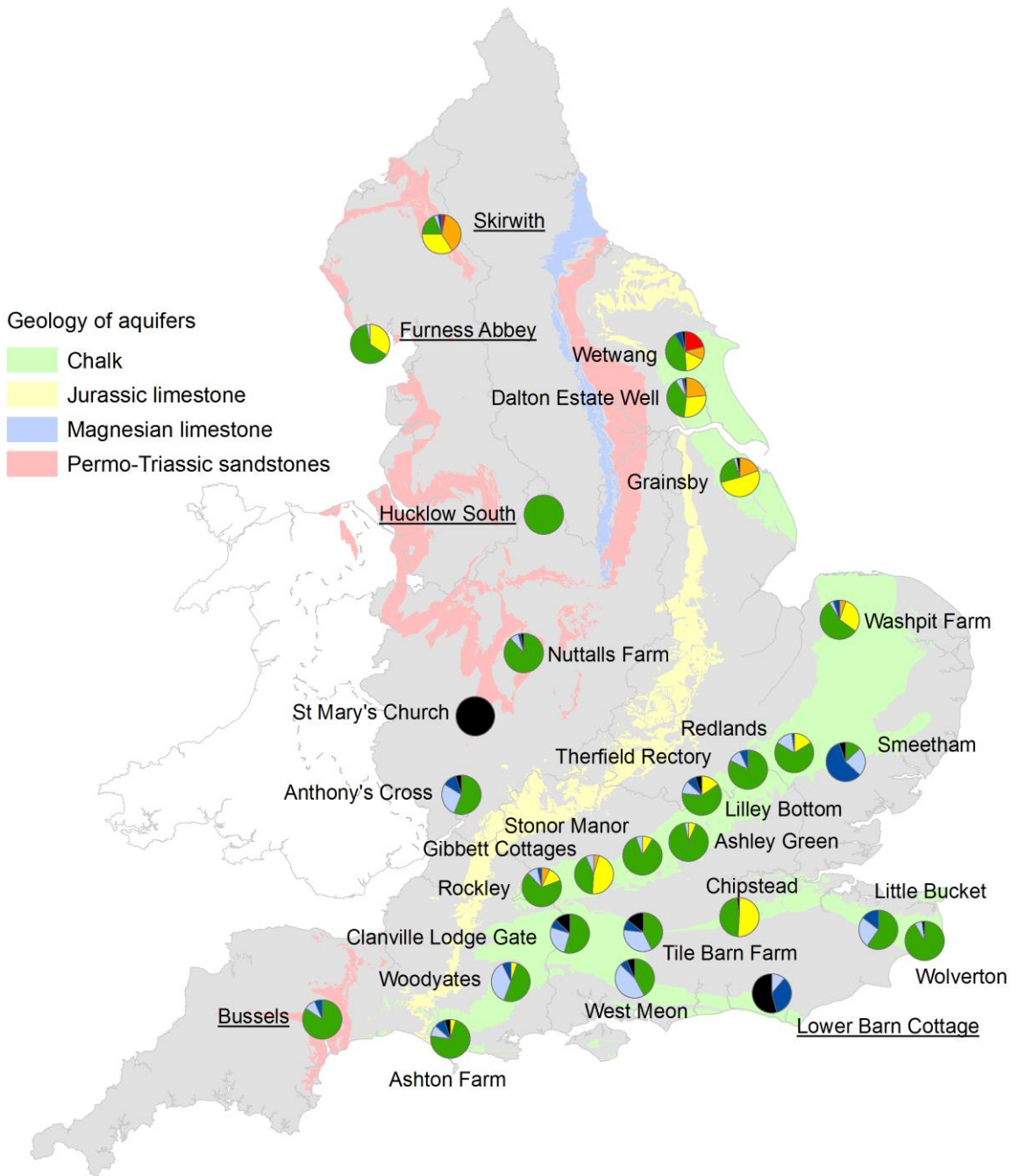
(Source: Environment Agency) Geological map reproduced with kind permission from UK Groundwater Forum BGS © NERC Crown copyright. All rights reserved. Environment Agency 100024198 2023.

Figure 7.7: Probabilistic ensemble projections of groundwater levels at key indicator sites at the end of March 2023. Pie charts indicate probability, based on climatology, of the groundwater level at each site being e.g. exceptionally low for the time of year. Projections for underlined sites produced by BGS.



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Figure 7.8: Probabilistic ensemble projections of groundwater levels at key indicator sites at the end of September 2023. Pie charts indicate probability, based on climatology, of the groundwater level at each site being e.g. exceptionally low for the time of year. Projections for underlined sites produced by BGS.



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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} or m^3/s).

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 1961-1990. 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 x 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 (e.g. 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.

8.3 Geographic regions

Throughout this report regions of England are used to group Environment Agency areas together. Below the areas in each region are listed, and Figure 8.1 shows the geographical extent of these regions.

East includes: Cambridgeshire and Bedfordshire, Lincolnshire and Northamptonshire, and Essex, Norfolk and Suffolk areas.

South east includes: Solent and South Downs, Hertfordshire and North London, Thames, and Kent and South London areas.

South west includes: Devon and Cornwall, and Wessex areas.

Central includes: Shropshire, Herefordshire, Worcestershire and Gloucestershire, Staffordshire, Warwickshire and West Midlands, and Derbyshire, Nottinghamshire and Leicestershire areas.

North west includes: Cumbria and Lancashire, and Greater Manchester, Merseyside and Cheshire areas.

North east includes: Yorkshire, and Northumberland Durham and Tees areas.

Figure 8.1: Geographic regions



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9 Appendices

9.1 Rainfall table

Region	Jan 2023 rainfall % of long term average 1961 to 1990	Jan 2023 band	Nov 2022 to January 2023 cumulative band	Aug 2022 to January 2023 cumulative band	Feb 2022 to January 2023 cumulative band
East England	88	Normal	Normal	Normal	Below normal
Central England	96	Normal	Normal	Normal	Normal
North-east England	96	Normal	Normal	Normal	Normal
North-west England	137	Above Normal	Above normal	Normal	Normal
South-east England	123	Normal	Notably high	Notably high	Normal
South-west England	126	Above Normal	Notably high	Above normal	Normal
England	113	Normal	Above normal	Above normal	Normal

9.2 River flows table

Geographic area	Site name	River	Jan 2023 band	Dec 2022 band
East	Burnham	Burn	Below normal	Below normal
East	Claypole	Upper Witham	Normal	Above normal
East	Colney	Yare	Normal	Below normal
East	Denver	Ely Ouse	Normal	Below normal
East	Dernford	Cam	No data	Below normal
East	Louth Weir	Lud	Normal	Normal
East	Offord	Bedford Ouse	Normal	Normal
East	Springfield	Chelmer	Above normal	Normal
East	Stowmarket	Gipping	Normal	Normal
East	Upton Mill	Nene	Normal	Normal
Central	Bewdley	Severn	Normal	Notably low
Central	Derby St Marys	Derwent	Notably high	Below normal
Central	Evesham	Avon	Normal	Normal
Central	Marston-on-dove	Dove	Above normal	Below normal
Central	North Muskham	Trent	Normal	Normal
North East	Buttercrambe	Derwent	Normal	Normal
North East	Crakehill Topcliffe	Swale	Above normal	Normal

North East	Heaton Mill	Till	Normal	Normal
North East	Doncaster	Don	Above normal	Normal
North East	Haydon Bridge	South Tyne	Normal	Normal
North East	Tadcaster	Wharfe	Above normal	Normal
North East	Stanhope	Wear	Notably high	Normal
North West	Ashton Weir	Mersey	No data	No data
North West	Caton	Lune	Notably high	Normal
North West	Ouse Bridge	Derwent	Notably high	Below normal
North West	Pooley Bridge	Eamont	Exceptionally high	Normal
North West	St Michaels	Wyre	Notably high	Normal
North West	Ashbrook	Weaver	Notably high	Normal
South East	Allbrook and Highbridge	Itchen	Notably high	Above normal
South East	Feildes Weir	Lee	Above normal	Normal
South East	Hansteads	Ver	Above normal	Above normal
South East	Hawley	Darent	Above normal	Normal
South East	Horton	Great Stour	Above normal	Normal
South East	Kingston	Thames	Normal	Normal
South East	Lechlade	Leach	Above normal	Normal
South East	Teston and Farleigh	Medway	Above normal	Above normal
South East	Marlborough	Kennet	Above normal	Normal

South East	Udiam	Rother	Notably high	Notably high
South East	Ardingley Gs	Ouse	Normal	Above normal
South East	Princes Marsh Gs	Rother	Exceptionally high	Above normal
South West	Amesbury	Upper Avon	Notably high	Normal
South West	Bathford	Avon	Notably high	Normal
South West	Bishops Tull	Tone	Exceptionally high	Normal
South West	East Stoke	Frome	Exceptionally high	Above normal
South West	Great Somerford	Avon	Exceptionally high	Normal
South West	Gunnislake	Tamar	Above normal	Normal
South West	Hammoon	Middle Stour	Exceptionally high	Above normal
South West	Knapp Mill	Avon	Notably high	Normal
South West	Lovington	Upper Brue	Exceptionally high	Normal
South West	Thorverton	Exe	Exceptionally high	Normal
South West	Torrington	Torridge	Notably high	Normal
South West	Truro	Kenwyn	Above normal	Normal
South West	Austins Bridge	River Dart	Exceptionally high	Above normal
EA Wales	Manley Hall	Dee	Notably high	Normal
EA Wales	Redbrook	Wye	Above normal	Normal

9.3 Groundwater table

Geographic area	Site name	Aquifer	End of Jan 2023 band	End of Dec 2022 band
East	Grainsby	Grimsby Ancholme Louth Chalk	Normal	Below normal
East	Redlands Hall (chalk)	Cam Chalk	Normal	Normal
East	Hanthorpe	Cornbrash (South)	Above normal	Above normal
East	Smeetham Hall Cott.	North Essex Chalk	Normal	Normal
East	Washpit Farm Rougham	North West Norfolk Chalk	Below normal	Below normal
Central	Four Crosses	Grimsby Ancholme Louth Limestone	Below normal	Normal
Central	Weir Farm (sandstone)	Bridgnorth Sandstone Formation	Notably high	Above normal
Central	Coxmoor	Permo Triassic Sandstone	Above normal	Above normal
Central	Crossley Hill	Permo Triassic Sandstone	Normal	Normal
North East	Dalton Estate Well	Hull & East Riding Chalk	Normal	Normal
North East	Aycliffe Nra2	Skerne Magnesian Limestone	Above normal	Normal

North East	Wetwang	Hull & East Riding Chalk	Normal	Normal
North West	Priors Heyes	West Cheshire Permo-Triassic Sandstone	Exceptionally high	Exceptionally high
North West	Skirwith (sandstone)	Carlisle Basin Permo-Triassic sandstone	Above normal	Normal
North West	Lea Lane	Fylde Permo-Triassic Sandstone	Below normal	Below normal
South East	Chilgrove (chalk)	Chichester-Worthing-Portsdown Chalk	Notably high	Notably high
South East	Clanville Gate Gwl	River Test Chalk	Above normal	Normal
South East	Houndean Bottom Gwl	Brighton Chalk Block	Above normal	Notably high
South East	Little Bucket (chalk)	East Kent Chalk - Stour	Above normal	Normal
South East	Jackaments Bottom (Jurassic Limestone)	Burford Oolitic Limestone (Inferior)	Normal	Normal
South East	Ashley Green STW OBH	Mid-Chilterns Chalk	Normal	Normal
South East	Stonor Park (chalk)	South-West Chilterns Chalk	Below normal	Below normal
South East	Chipstead Gwl	Epsom North Downs Chalk	Normal	Below normal

South West	Tilshead	Upper Hampshire Avon Chalk	Notably high	Normal
South West	Woodleys No1	Otterton Sandstone Formation	Normal	Below normal
South West	Woodyates	Dorset Stour Chalk	Above normal	Above normal

9.4 Reservoir table

Geographic region	% Full	Average comparison
East England	81	Below average
Central England	90	Below average
North-east England	92	Below average
North-west England	87	Below average
South-east England	89	Below average
South-west England	76	Below average
England	88	Above average