

29 April 2024

Updated prospects for irrigation - forecast for 2024.

Summary

Our updated prospects for irrigation across England for 2024 is Good as shown in Figure 1.

Above average rainfall over the winter and early spring has led to a healthy water resources position ahead of the summer.

We still encourage irrigators to take action to safeguard supplies for the summer in order to prepare for any periods of prolonged dry weather. Possible actions include:

- Maximising opportunities to refill reservoirs during high flows.
- Contacting us if having reservoir refill problems
- Planning cropping to meet reduced water availability

The irrigation prospects reflect the water situation using current river flows, groundwater levels, weather forecasts and Met Office seasonal outlooks.

Rainfall for England over the last 6 months (October– March) has been the wettest on record. The wet conditions have continued into April and the month has already had above average rainfall across England. Overall rainfall between January to March 2024 for England was 151% of the long-term average.

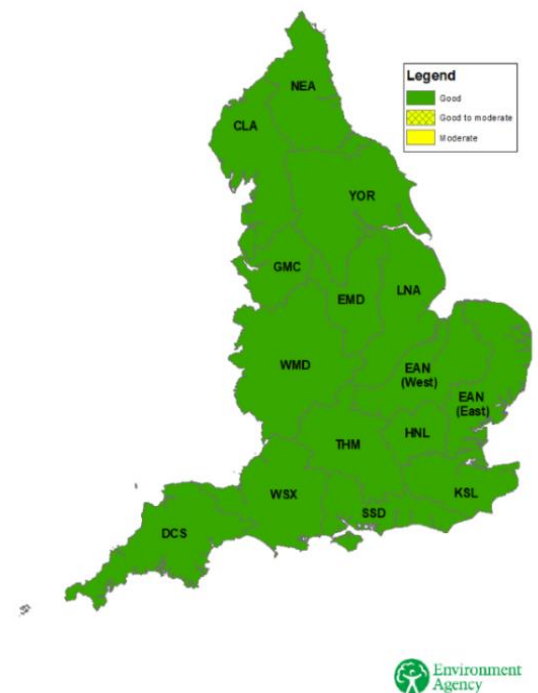
The wet winter has allowed for recharge of reservoir stocks and many river and groundwater levels remain above normal. This has led to surface and groundwater flooding in some areas. Consequently, in some areas, there is currently too much water rather than too little and this is likely to impact on the growing season this year. We are continuing to engage with our partners to support the agriculture sector.

The current unsettled conditions are expected to continue into May especially in the south whilst the north of the country may have relatively drier conditions. Below average temperatures are likely at first, but these are expected to recover to average as the month progresses.

More information on the water situation is available at [Water situation reports for England - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/collections/water-situation-reports-for-england).

More information on weather forecasts is available at the Met Office. The [Met Office 3-month forecast](https://www.metoffice.gov.uk/forecast/uk/3-month) is now available.

Figure 1. Irrigation prospects spring- summer 2024



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More detailed Area irrigation prospects are contained in a separate accompanying document on the Farming Advice Service website. Guidance can also be found in relation to [abstraction during prolonged dry weather](#).

Definitions

Prospects for spray irrigation are defined as ‘Good’, ‘Moderate’ or ‘Poor’.

Good	Water levels are average or above average and supplies are expected to be safe. There is a possibility of minor local controls on abstraction from surface water in late summer if the weather is exceptionally hot and dry.
Moderate	Water levels are low. Some controls on surface water abstraction are possible by midsummer if the weather is hot and dry. Controls on abstraction from groundwater are possible in small, sensitive groundwater areas.
Poor	Water levels are well below average. Soil moisture deficit is developing early and significant restrictions on abstraction from surface and groundwater are probable.

Mark Betson, the NFU’s Water Resources Specialist said, “The risk this year in parts of the country has been from too much rather than too little rainfall which has impacted planting and overall crop prospects going forward. Most reservoirs for irrigation are full and groundwater levels are high but climate volatility means we may face extended dry periods at some point in the future. Upcoming changes to abstraction licences additionally may see less water available for high demand periods. Now may be a good time to consider options with licences or reservoir capacity, for improved water storage at peak flow periods with the recent wet weather in mind”.

Prospects for individual areas

Area	Prospects for 2024
Environment Agency Cumbria and Lancashire	Good
Environment Agency Devon, Cornwall and the Isles of Scilly	Good
Environment Agency East Anglia East (covering Essex Norfolk and Suffolk)	Good
Environment Agency East Anglia West (covering Cambridgeshire and Bedfordshire)	Good
Environment Agency East Midlands	Good
Environment Agency Greater Manchester, Merseyside and Cheshire	Good
Environment Agency Hertfordshire and North London	Good
Environment Agency Kent, South London and East Sussex	Good
Environment Agency Lincolnshire and Northamptonshire	Good
Environment Agency North East	Good
Environment Agency Solent and South Downs	Good
Environment Agency Thames	Good
Environment Agency Wessex	Good
Environment Agency West Midlands	Good
Environment Agency Yorkshire	Good

Updated prospects for irrigation – Area forecasts for 2024

Our updated prospects for irrigation across England in 2024 are **GOOD**. Further detail of the prospects for your [local area](#) can be found in this document.

Ensuring a successful irrigation season

Above average rainfall over the autumn and winter has led to a healthy water resources position. However, in some areas there is currently too much water which is impacting on the agriculture sector this year. Despite the wet winter, prolonged dry weather can still be a risk during the summer months, and we advise all irrigators to understand the risks associated with a period of prolonged dry weather on your abstraction. We ask all irrigators to take such actions as possible to minimise the impacts of prolonged dry weather on the environment and their businesses. If you have any concerns about your abstraction this summer, please talk to us about actions you can take. If you don't know your local Environment Agency contact, please call our customer service line on 03708 506506 and ask to speak to your local water resources member of staff dealing with irrigation prospects. We have provided local Environment Agency contacts within this report.

Abstraction Licences

- Understand your licence conditions. If you don't, please get in touch and we can help you.
- Check your licence details and, always:
 - adhere to licence conditions ensuring that abstractions are only taken from authorised locations during authorised periods.
 - ensure volumes and rates are not exceeded and keep accurate records of meter readings.
 - check for any local conditions on your licence such as hands off flow restrictions.
- Where third parties undertake irrigation, licence holders should ensure contractors fully understand the abstraction licence conditions. Those who have licences with compensation discharges and re-abstraction conditions should ensure that water is released at the same time as abstraction is taking place.
- Review your water needs. Make sure that you apply to make any changes to your water rights so that your abstraction is more resilient.
- Register to manage your licences online:
 - The EA has developed a secure [Managing Water Abstraction Service](#) on GOV.UK for abstractors, and over 8,000 abstractors have already registered.
 - We are encouraging abstraction licence holders to register to be able to submit abstraction returns easily and quickly online, see a summary of their licences while in the field and delegate access to a third party to submit returns. Most EA area teams are now using the service to send abstractors Water Abstraction e-Alerts when hands-off conditions are coming into force or being lifted.
 - The e-Alerts system is similar to the Environment Agency's targeted flood warning service but considers water management during periods of dry weather. These alerts help improve access to water when it is there, and better protect the environment when it is not. It is one of the ways the Environment Agency is supporting abstractors to adapt to climate change, and industry data has shown a potential benefit of up to £6.3 million per year to affected businesses through the provision of more timely alerts.

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- If you haven't heard from the Environment Agency about e-Alerts yet, please be patient. We need to ensure the transition from the existing approach to email alerts is seamless, so the local team will contact you when it has completed the necessary preparatory work. You can read more about the new system at the [Defra digital, data and technology blog](#).
- Following requests for increased flexibility from abstractors during recent storms, the Environment Agency has produced a [Regulatory Position Statement](#). The statement applies to the abstraction of water at times of year that are not included within licence holders' conditions, or at instantaneous, hourly, or daily rates that exceed licence holders' quantities. Other licence conditions must still be met. It is important to note that it is not intended as an alternative to the abstraction licensing system. We still expect abstractors to vary their licences if they require additional water.
- Potentially increase your water resilience by applying (as part of a Water Abstractor Group or similar) for a study identifying and screening Local Resource Options (including reservoirs, rainwater harvesting and licence trading) in your area. The Local Resource Options screening fund has been recently launched and is accessible to farmers who would like to investigate improving their water resources resilience. The application window is available from 22 April to 16 June 2024 and for more information and how to apply, please visit the [gov.uk](#) website.

Voluntary Restrictions

- Support voluntary restrictions if they are requested. This will delay and may avoid the need for more formal restrictions. If you voluntarily reduce your abstraction, this will not count against you if you apply to renew your licence.

Storage Reservoirs

- Take every possible opportunity to ensure that high flow storage reservoirs are as full as possible by the start of the irrigation season.
- If you are currently having trouble filling your irrigation reservoirs, please contact us as early as possible to enable maximising any potential that may exist to fill your reservoir.
- Continue to plan for the future. If you are applying for a Water Management Grant (Round 2) for a new reservoir and you think you may need a new abstraction licence or a variation to your existing licence, you should contact the Environment Agency as soon as possible. You will need a valid abstraction licence before you can submit your full grant application. The closing date for grant applications is 31 October 2024, but it can take up to a year to apply for an abstraction licence.
- Ensure your reservoir is regularly maintained, checking for cracks and leaks.

Irrigation Management

- Make sure that meters are in good working order and properly fitted.
- Check irrigation systems and replace worn or broken items before the start of the season.
- Make sure that irrigation systems are properly set up and operated in accordance with an accurate and reliable irrigation scheduling system.
- Ensure you are prepared to change your irrigation plans if necessary.
- Prioritise crops and fields in terms of water need.
- Choose irrigation times carefully, e.g. avoid the heat of the day; irrigate at night, if possible.
- Undertake a water audit. Know the cost of your water, calculate crop per drop.

- Be aware of the EA dry weather advice which is available under the [prolonged dry weather abstraction guidance](#).
- A Water Rights Trading map is being updated with more recent data to cover all of England and we will share this information when available.
- See also the document: [Guidance on the planning and design of irrigation reservoirs in Kent](#), jointly produced by Environment Agency, Kent County Council and EMR.

Abstractor Groups and Guidance

- Where appropriate, discuss issues and share ideas with neighbouring farmers. Several local liaison groups already exist for this purpose. Consider joining or setting up a group.
- Maintain an awareness of developing guidance from academic institutions and farming organisations (such as e.g. NFU, UKIA, Cranfield University etc.).

Other useful links and guidance

- We have a range of literature available to help support your business including Rainwater Harvesting; Adopting Best Metering Practice; and Think About Installing an Irrigation Reservoir (please request these from our local Environment Agency area – contacts below).
- Keep updated on the latest water situation reports at <https://www.gov.uk/government/collections/water-situation-reports-for-england> (national and area specific reports are available).

Definitions

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Moderate	Water levels are low. Some controls on surface water abstraction are possible by midsummer if the weather is hot and dry. Controls on abstraction from groundwater are possible in small, sensitive groundwater areas.
Poor	Water levels are well below average. Soil moisture deficit is developing early and significant restrictions on abstraction from surface and groundwater are probable.

Prospects for individual areas

To jump to specific areas, please click the links below:

[Cumbria and Lancashire](#)

[Devon, Cornwall and Isles of Scilly](#)

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[East Anglia \(East- covering Essex, Norfolk and Suffolk\)](#)

[East Anglia \(West- covering Cambridgeshire and Bedfordshire\)](#)

[East Midlands](#)

[Greater Manchester, Merseyside and Cheshire](#)

[Hertfordshire and North London](#)

[Kent, South London and East Sussex](#)

[Lincolnshire and Northamptonshire](#)

[North East](#)

[Solent and South Downs](#)

[Thames](#)

[Wessex](#)

[West Midlands](#)

[Yorkshire](#)

Area detail

Environment Agency - Cumbria and Lancashire

Forward look

The current situation is normal and if we have average rainfall then the irrigation prospects for the summer are likely to be [GOOD](#).

Background

The Cumbria and Lancashire area has quick responding rivers and therefore the surface water situation can change relatively quickly. There are currently no concerns regarding irrigation from groundwater.

Rainfall/Soil Moisture Deficit

Cumbria and Lancashire observed above average rainfall over the previous three months (January 2024 to March 2024). Over this period rainfall was 152% of the long-term average and was classed as exceptionally high.

Rainfall up to 15 April was variable across Cumbria and Lancashire – ranging between 126% and 248% of the LTA (Long-Term Average) for April, depending on the catchment.

The main surface water irrigation area in Cumbria and Lancashire is the Crossens, which lies in the Douglas hydrological area. The Douglas area observed above normal rainfall during March (130% of the

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LTA for March), with the rain gauge at Crossens pumping station observing 148% of the LTA for March and 95% of the LTA for April by 15 April. Once we reach the drier months, the pumping station trigger levels will change with the aim of maintaining water levels able to support irrigation abstraction in the level dependent part of the Crossens catchment. When doing this we have to consider various priorities, including flood risk management.

Soil across Cumbria and Lancashire was saturated at the end of March, the soil moisture deficit levels across the area were all at 0mm. This is lower than expected for the time of year.

River Flows/Reservoir Storage

Monthly mean river flows across Cumbria and Lancashire for March 2024 were classed in the range of normal to notably high for the time of year. In the Douglas area, the River Yarrow at Croston observed normal monthly mean river flow during March (106% of the LTA for March). River flows can decline relatively quickly if Cumbria and Lancashire experience periods of below average rainfall over the coming months. Daily mean river flows during the middle of April 2024 ranged from above normal to exceptionally high.

For the week ending 7 April, total reservoir storage for North West England was at 94%, compared to 93% this time last year. This is the same as the average expected for the time of year.

Groundwater

There are no concerns regarding irrigation from groundwater. As of March 2024, groundwater levels are healthy as levels at our indicator boreholes are between exceptionally high and normal.

Please contact for more information:

Integrated Environment Planning team - drought.northwest@environment-agency.gov.uk

Environment Agency - Devon, Cornwall and Isles of Scilly

Forward look

The overall summer prospects for water resources availability for irrigation in Devon, Cornwall & Isles of Scilly are currently **GOOD** unless there are significant dry and warm conditions over the next few months.

With the groundwater levels remaining healthy and the limited environmental benefit of placing S57 spray irrigation restrictions in Devon, Cornwall & Isles of Scilly, we do not anticipate any restrictions regarding irrigation in the coming months. This position may be reviewed during 2024, dependent on the rainfall patterns and river/groundwater levels.

Background

Because of the nature of the geology and landscape in Devon, Cornwall & Isles of Scilly, it is difficult to predict water shortages for irrigation in the coming season. Whether there is sufficient water will depend on rainfall, water abstraction and temperatures during the season. We therefore expect abstractors to be prepared and encourage applications for winter storage reservoirs. To stay up to date with the water situation of Devon and Cornwall, read our monthly situation report: [Water situation: area monthly reports for England 2024 - GOV.UK \(www.gov.uk\)](#)

Devon, Cornwall & Isles of Scilly experienced a very dry period from November 2021 to August 2022, which led to the area being in drought status. There was a change in the weather which saw wetter conditions, with above average rainfall from July 2023 through to March 2024. The recent wet period has

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resulted in high groundwater and river flows. This puts the water situation in a healthy position for the coming months.

Rainfall/Soil Moisture Deficit

Devon and Cornwall received above average rainfall over the six-month period October 2023 to March 2024. The 6-month cumulative rainfall total (October to March) for Devon and Cornwall was the second wettest 6-month period since records began in 1871. Soil moisture deficit for Devon and Cornwall was close to zero by the end of March 2024, which is wetter than the LTA for the time of year, and also wetter than at the end of January 2023.

River Flows

Monthly mean flows for March 2024 ranged from notably high to exceptionally high for the time of year. Daily mean river flows during the middle of April 2024 were above normal for the time of year. There will always be a risk that flows will reduce rapidly if there is a sustained dry period over the coming months.

Groundwater

Groundwater levels were healthy as of March 2024, with our indicator monitoring boreholes recording between above normal and exceptionally high status. Groundwater levels are still generally rising, as would be expected at this time of year. Starting the year at these relatively high levels means that it is unlikely that very low levels will be reached in the summer and autumn.

Please contact for more information:

DCIS IEP WR Drought.DCIS@environment-agency.gov.uk

Environment Agency - East Anglia (East)

Forward Look

The overall summer prospects for water resources availability for irrigation in East Anglia East are currently [GOOD](#).

Rainfall/ Soil Moisture Deficit

The coastal catchments of East Anglia have been experiencing a particularly wet period since July 2023. During the seven months between July to January rainfall accumulations have been 120mm and 210mm above the long-term average. October was exceptionally wet particularly in East and mid Suffolk with records of up to 300% of the long-term average rainfall. Soil moisture deficits fell rapidly during October regularly exceeding field capacity. Soil moisture deficits remains very low and we can expect further sustained recovery into April.

River Flows

Many parts of Suffolk experienced record high flows in October and groundwater levels began their annual recovery exceptionally early. This recovery has been sustained across the eastern catchments with the exceptionally wet conditions persisting into February. Monthly average river flows for March have remained above normal.

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Groundwater

Groundwater levels are now notably high or exceptionally high in most aquifer units. Our early assessment of prospects based on current groundwater levels is therefore good for all catchments and particularly good for those rivers with a strong baseflow or high groundwater contribution. This includes the rivers North of the Waveney, coastal crag and gravel fed catchments in Suffolk and Essex. Those who abstract directly from rivers with a lower groundwater contribution i.e. the inland catchments south of and including the Waveney should also expect to experience a secure and restriction-free irrigation season in all but the most extreme of summer heatwaves. We have a few catchments where peak summer demand for irrigation can exceed the available summer baseflow, even when groundwater levels are high. Therefore, there is always a possibility that local demand may need to be constrained to protect the environment outside of a formally classified drought. The probability of restrictions being needed this year in the most vulnerable heavily pressured rivers remains exceptionally low (less than 2% chance).

Please contact for more information:

Tim Wojcik – East Anglia East

easterniep@environment-agency.gov.uk

Peter Willett – Technical Specialist – Hydrology

peter.willett@environment-agency.gov.uk

Environment Agency - East Anglia (West)

Forward look

The overall summer prospects for water resources availability for irrigation in East Anglia (West) are currently **GOOD**.

In the higher baseflow catchments, high groundwater levels are likely to persist into the summer, and flows are likely to remain healthy for the time of year. Those catchments include the streams of northwest Norfolk, the Wissey, the Little Ouse, the Cam and the Ivel. These rivers' prospects are good for this year's irrigation season. Section 57 spray irrigation restrictions in these catchments are extremely unlikely. Individual hands-off flow conditions could come into effect on some licences, though, as they could in any year.

The runoff-dominated tributaries of the Bedford Ouse and the headwater streams elsewhere which don't benefit from strong baseflows can have low summer flows, as they are not strongly influenced by wet weather during the preceding winter. There are relatively few irrigation licences in these catchments though.

The Fenland IDB-drained areas are always susceptible to prolonged hot and dry weather during the irrigation season. Local water management actions using existing licence conditions are likely to be required during this type of weather. Catchments such as the Middle Level, South Level, Counter Drain and Hundred Foot IDB catchments should benefit from river transfers that are boosted by high baseflows. However, any increase in baseflow available is small compared to peak irrigation demands and the evaporative losses from those areas. Formal Section 57 spray irrigation restrictions are however very unlikely to be required in Fenland areas.

Groundwater licences will not be affected by Section 57 spray irrigation restrictions this summer.

Rainfall / Soil Moisture Deficit

In the 15 months since the beginning of 2023, most catchments in East Anglia West have recorded record high rainfall totals (using records back to 1871). The six months from October 2023 to March 2024 were particularly wet, with typically 160 – 175 per cent of the long-term average (1991-2020) rainfall. October 2023 brought 130mm, more than double the long-term average, leading to a rapid and early saturation of soils. February 2024 was also exceptionally wet and was the wettest February on record. It is also notable that up to March 2024, there have been no dry months since June 2023.

River Flows

The wet weather during autumn and winter led to some exceptionally high river flows in October, early January and February. During the middle of April 2024, daily mean river flows were generally above normal. While runoff responses are short-lived, the rise in baseflows in catchments where rivers are fed by groundwater discharge bodes well for water resources later in the summer. In catchments and pump-drained areas without a large flow contribution from groundwater, the conditions this winter will have little influence on river flows during the coming summer.

Groundwater

Groundwater levels began recharging early in the autumn, particularly in response to the exceptionally wet October. Catchments in northwest Norfolk which typically take longer to begin recharging and were more of a cause for concern during 2022 now have high, and in some locations very high, groundwater levels.

Please contact for more information: Catherine Keey, East Anglia (West)

iep_ang_central@environment-agency.gov.uk

Environment Agency - East Midlands

Forward look

The overall summer prospects for water resources availability for irrigation in East Midlands Area are currently **GOOD**. However, if spring and early summer turn dry, the irrigation prospects may change.

Background

East Midlands entered recovering drought status in January 2023 and returned to normal status in April 2023 with the return of average rainfall and steady groundwater recharge. The last six months (October – March 2024) have been exceptionally wet.

Rainfall

During March, all hydrological areas received rainfall ranging from above normal to exceptionally high totals relative to the long-term average (LTA).

Soil Moisture Deficit

Soil moisture deficit (SMD) has remained at field capacity across the East Midlands since December, with March continuing to have 10mm or less of soil moisture deficit.

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River Flows

At the start of winter, we recorded exceptionally high monthly mean flows compared to the LTA, with some rivers exceeding their highest monthly mean historic flows for December. Rivers have remained at least above normal & notably high responding quickly to the increase in rainfall across our catchments.

Groundwater

Groundwater levels are healthy with all sites reporting above normal in comparison with the long-term average. Two sites have also recorded exceptionally high levels for the month of March.

Please contact for more information:

East Midlands Integrated Environment Planning team at WaterResources.DBNTLS@environment-agency.gov.uk

Environment Agency - Greater Manchester, Merseyside and Cheshire

Forward look

The summer prospects for water availability for irrigation season in 2024 are GOOD unless there are exceptionally dry and warm conditions in next few months.

Background

Rainfall has been above monthly long-term average since July 2023 in Greater Manchester, Merseyside and Cheshire area. As a result, the 6-month and 12-months cumulative totals were classed as exceptionally high and showed wettest periods of rainfall since 1871.

Rainfall / Soil Moisture Deficit

Rainfall for the last three months ending March 2024 was 138% of the long-term average and was classed as notably high. The soil moisture deficit (SMD) values have reflected the rainfall patterns. Soil moisture deficit was completely saturated across the area by the end of March, which is lower than expected for the time of year. Greater Manchester, Merseyside and Cheshire area has quick responding rivers, and therefore the situation can change relatively quickly. Further rain will allow further improvement in the river flows.

River flows

Out of nine flow gauging sites, Ashbrook at the River Weaver observed exceptionally high flow in March and four each other flow gauging sites observed above normal and normal flows in March. There will always be a risk that flows will drop rapidly if there will be sustained period of dry and warm period over the coming months.

Groundwater

Groundwater levels are healthy with all the sites reporting exceptionally high in comparison to the monthly long-term average. There are no concerns regarding irrigation from groundwater.

Please contact for more information:

Integrated Environmental Planning IEP_GMMC@environment-agency.gov.uk

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Environment Agency - Hertfordshire and North London

Forward Look

The overall summer prospects for water resources availability for spray irrigation in Hertfordshire and North London are [GOOD](#).

Background

Rainfall amounts have exceeded the winter seasonal average at 160% for the period 1 October to 31 March. This represents an 18% increase over the values for the same period in 2022-2023.

Groundwater levels have continued to rise over the winter period following the saturation of the soil layer. River flows equally have risen with headwater flows being reported for most chalk streams. The higher rainfall amounts have assisted the early filling of winter storage reservoirs within the clay-based river systems.

Rainfall / Soil Moisture Deficit (SMD)

Rainfall since November 2023 has continuously exceeded the long-term average. The current SMD data indicate the soil layer remains saturated.

River Flows

Monthly river flows ranged between the above normal and exceptionally high bands. Recent surveys have indicated headwater flows across the Chiltern and the Upper Lee Chalk streams. The river Ash (Herts) based on the last survey is temporarily losing flow around Clapgate. This is put down to localised natural factors specific to this watercourse.

Groundwater

Groundwater levels have continued to increase at our key indicator sites ranging from above normal to the exceptionally high banding. Many sites are recording historically high values. Groundwater based rivers are likely to benefit from these high groundwater levels over the spring and summer period with higher river flow.

Flow Constraints

Flow constraints for many abstractors have been active for only short periods. Filling of winter storage reservoirs has been possible and no reported issues have emerged.

Drier conditions are always likely to occur, and this could result in some flow and level restrictions over the summer period. Individual abstractors will be notified, and we are willing to discuss any specific issues that irrigators may encounter.

We will continue to monitor river flows and groundwater levels. This data is published and available to irrigators via [Water situation: area monthly reports for England 2024 - GOV.UK \(www.gov.uk\)](#)

If you would like further information, please contact: Alastair Wilson
HNLenquiries@environment-agency.gov.uk

Environment Agency - Kent, South London and East Sussex

Forward Look

The KSLES Area's water resource availability outlook for the 2024 irrigation season is [GOOD](#).

Over the winter period (Oct 2023 to Mar 2024) we received 167% of the Long-Term Average (LTA) rainfall, the third wettest winter on record for the area since records began in 1872 (2001 & 2014 being wetter).

Due to above average rainfall conditions experienced over this period, water resources across all catchments are in favourable conditions heading into the irrigation season, with no imminent concerns from a water resources perspective or outlook regarding the requirements for irrigation.

As a result of the wet winter, high groundwater levels are likely to persist into the summer, providing higher baseflow support to rivers.

It is therefore unlikely to expect abstraction constraints to be triggered for irrigators, dependent upon ground or surface water sources within catchments of baseflow dominated rivers, such as the Darent and Cray, mid to lower Stour in North Kent and chalk streams within the area of South London. Rainfall sensitive, impermeable catchments will typically be more susceptible to the impacts of persistent drier conditions should they occur, with constraints progressively being reached. Within these catchments, the onset of constraints is much delayed due to the wet start of the season, with constraints within the Medway, Rother, Mole and Upper Stour catchments not expected to be imposed until mid-summer. Water level dependant marsh areas are heading into this irrigation season with their condition considered healthy. This means possible constraints will be applied later than normal, possibly towards the end of the season, should prolonged drier conditions be experienced.

Background

The summer of 2022 was exceptionally hot and dry, leaving many river baseflows vulnerably low. Following on from the hot and dry summer, some recovery was brought about by the Area, experiencing widespread wetter conditions over the October to March 2022/23 winter period (141% of LTA rainfall); although, this was interspersed with dry periods, particularly during February 2023.

Normal conditions were experienced across all catchments in the summer of 2023, with subdued temperatures, leaving many river baseflows relatively resilient heading into autumn. The wet winter conditions that we experienced since the end of October 2023 led to a steep rise in groundwater levels in November and December. This year, except for January, we experienced above average rainfall conditions, particularly during February 2024 (290% LTA rainfall), with record breaking rainfall across many catchments.

Rainfall / Soil Moisture Deficit

During the 2023/24 winter period, the area experienced exceptionally wet conditions from early autumn with widespread intense periods of rain resulting in 167% of the LTA rainfall (Oct 2023 to Mar 2024). Soil moisture deficits were consistently below the LTA for the respective months. These exceptionally wet conditions have allowed the early onset and sharp groundwater recovery, which continues to prevail.

River Flows

Following a very wet winter, flows remain seasonally high across all catchments, providing favourable abstraction conditions. Impermeable clay catchments will typically be more susceptible to the impacts of drier conditions should they occur with subsequent abstraction constraints invariably following. Catchments where the summer flow component is predominately composed of groundwater-based flow will remain resilient if drier warmer conditions become more prevalent during the summer months.

Groundwater

Heading into the summer season, the wet winter has left groundwater levels in the Chalk ranging between notably high and exceptionally high and those in Greensands exceptionally high. The continuation of these conditions, combined with above average effective rainfall, low Soil Moisture Deficits (SMD) and average temperatures have extended the seasonal aquifer recharge period.

Currently, aquifers remain responsive to rainfall, delaying the fall of groundwater levels that for this time of the year would be typical. The resultant levels are relatively high and are likely to remain high for some time over the coming weeks. Groundwater resources are heading into the irrigation season in a healthy condition. Therefore, within groundwater supported catchments this summer, it is not expected abstraction constraints will be applied to those abstractions irrigators are dependent upon.

More detailed hydrological information can be found in the Environment Agency's Area Monthly Water Situation Report at: [Water situation: area monthly reports for England 2024 - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/publications/water-situation-area-monthly-reports-for-england-2024)

Latest local groundwater level reports can be read here: [Kent: groundwater situation - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/publications/kent-groundwater-situation)

For further updates or advice please contact your local environment officer or the Groundwater Hydrology team on: ksl.gwh@environment-agency.gov.uk telephone: 03708 506 506

If you haven't done so already, please register your abstraction licence/s on the Manage Your Water Abstraction Service here: [Manage your water abstraction licence online - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/services/manage-your-water-abstraction-licence). For assistance with registering or submitting digital returns please contact your local specialist using the email address above. For assistance with registering or submitting digital returns please contact your local specialist using the email address above.

Environment Agency - Lincolnshire and Northamptonshire

Forward look

The overall summer prospects for water resources availability for irrigation in Lincolnshire and Northamptonshire area are currently **GOOD** for 2024.

We are likely to see normal (or above) river flow conditions and normal (or above) groundwater levels this summer with 100% of the LTA rainfall. However, groundwater levels and river flows could drop to be at low-end of normal to below normal levels this summer with only 60 to 80% of LTA rainfall. Despite irrigation prospects being good, it is still possible that local water management actions will be required across the area during the irrigation season. Even in average conditions any dry periods during the summer can result in some form of local water management actions.

customer service line
03708 506 506

incident hotline
0800 80 70 60

floodline
03459 88 11 88

Background

The end of 2023 and start of 2024 was exceptionally wet in the Lincolnshire and Northamptonshire area. It was the wettest December to February on record, wettest October to February on record and wettest March-February on record (records go back to 1871). This included the wettest October on record and second wettest February on record. At the end of March, SMD was at below normal levels and most river flows were at exceptionally high levels at all indicator sites. Furthermore, groundwater levels were all at exceptionally high levels for the time of year.

Rainfall / Soil Moisture Deficit

March 2024 rainfall continued the theme of wetter than average months with 127% of the LTA rainfall; classifying the rainfall as above normal for the time of year. Since August 2023, all months have had greater levels of rainfall than the LTA. Soil Moisture Deficit marginally increased during March and is now classified as notably low to below normal in all catchments.

As of the 9 April, there has been 33% of the LTA rainfall in April and as such currently on course for normal levels of rainfall this month. Soil Moisture Deficit has continued to slightly increase and is now at below normal to normal levels in all catchments across the area.

River Flows

Above normal levels of rainfall in March ensured most river flow sites in the Lincolnshire and Northamptonshire area remained at exceptionally high levels during March. Some flow sites, mostly in the north of the region, ended March at notably high levels. River flows in April remain high.

Groundwater

Above normal levels of rainfall in March ensured that groundwater remained high across the area with all classified exceptionally high to notably high for the time of year. Groundwater levels have started to decline at the start of April (as expected for the time of year) but are still all classified between above normal and exceptionally high for the time of year.

Please contact for more information:

Drought.LNA@environment-agency.gov.uk

Environment Agency - North East Area

Forward look

The overall summer prospects for water resources availability for irrigation, in North East Area are currently **GOOD** for 2024.

The Met Office 3-month outlook for the UK suggests that over the period May to July, there is a slightly increased chance of a warm 3-month period. Near average rainfall looks most likely, however the chances of wetter than average period are higher than a drier than average one.

It is possible that the implementation of hands off flow conditions will be required in some catchments during the irrigation season as, even in average conditions, any dry periods may result in some form of local water management actions.

Irrigators with licences that include cessation conditions associated with river level or flow (i.e. hands off flow conditions) will be contacted by EA area staff when restrictions are in place.

customer service line
03708 506 506

incident hotline
0800 80 70 60

floodline
03459 88 11 88

Background

There have been relatively few dry months throughout the past year, with most monthly rainfall totals being above the long-term average (LTA) across the North East from autumn 2023 onwards. In some catchments rainfall has been above average since July 2023. All soils have been classed as wet since October 2023. Reservoir stocks across the area have been increasing since the autumn and are currently all healthy, with most stocks above average in March. River flows remained high in most catchments from October to December 2023. However, throughout January, February and March flows receded but remain normal to above normal during the middle of April. There have been a few significant storms, starting with Storm Babet in October, Storm Ciaran in November, and Storm Isha in January 2024, all of which produced high rainfall totals aiding catchment recharge.

Rainfall / Soil Moisture Deficit

Since June 2023, rainfall totals across the North East have been in the normal or above normal range. Cumulative six month totals up to March 2024 show that the last 6 months were the wettest on record since 1871 for Seaham and Tweed catchments, second wettest for the Wear catchment, and third for Tyne and Northumberland. For Seaham, Wear, and Tees cumulative totals for the past nine months have been the wettest on record since 1871. Rainfall totals in March 2024 were above average in all catchments. The Tees and Seaham catchments are the driest, with rainfall monthly totals falling in the normal category for March. The rest of the North East falls into the above normal category. Soil moisture deficits were highest in June 2023, when most of the North East fell in the normal to dry ranges. By July and August soil moisture deficits had improved with soils becoming more saturated. By October the whole catchment fell within the 'wet' category, where all catchments remain 5 months later.

River Flows

River flows have generally been normal and above for the past 6 months from September 2023 to March 2024 falling in these ranges for March. During the middle of April 2024, daily mean river flows were generally above normal. Over the past 13 months, mean river flows were below normal in February 2023 (coinciding with the dry month) and June 2023, where there was normal rainfall but a high soil moisture deficit. Recovery began with a very wet July, and most catchments had exceptionally high river flows in October and December. During October, Hartford Bridge and Mitford, on the River Wansbeck, recorded the highest monthly mean flows in October for the period of record from 1968 and 1963 respectively.

Groundwater

Groundwater stocks have reached above normal levels, for the time of the year, across most of our aquifers. The semi-confined areas of the Fell Sandstone, to the south of Berwick, is the only area where groundwater levels are still below normal, though levels are rising. In general, groundwater levels are continuing to rise across the area as a result of the overall wet 2023 and early 2024. The more confined parts of our aquifers are now showing signs of benefiting from the rain, with groundwater levels moving into the notably high range. Due to continued rainfall throughout spring, further increases in groundwater levels are expected through into summer 2024. This may lead to increased groundwater flooding, impacting more low-lying farmland in some areas, which has already been observed in recent months.

Please contact for more information:

Water Resources: water.resources.northeast@environment-agency.gov.uk

customer service line
03708 506 506

incident hotline
0800 80 70 60

floodline
03459 88 11 88

Environment Agency - Solent and South Downs

Forward look

The overall summer prospects for water resources availability for irrigation in Solent and South Downs (SSD) are currently **GOOD** for 2024 unless there are significant dry and warm conditions over the next few months.

Background

For the autumn/winter 6-month period (October 2023 - March 2024) SSD received 184% of the LTA rainfall, the second wettest on record. Rainfall for the 3-month period January - March ranks as the fourth wettest for SSD as a whole. SSD is heavily dependent on groundwater so prospects for summer rely on the extent to which the chalk and greensand aquifers are replenished over this winter period.

Rainfall / Soil Moisture Deficit

Rainfall in the months from September to December 2023 were all above average. January 2024 was around average. Most of January's rain was received in the first week and there were several dry days during the month. Early February saw another extremely wet period from the 7 –9. At the end of January soils were slightly drier than average but the rain in February brought the soil moisture deficits back to average.

SSD had above average rainfall in March, receiving 165% (110mm) of the long-term average (LTA) rainfall (67mm). Groundwater levels ranged from notably high to exceptionally high. Soils across SSD ended the month of March wetter than average.

River Flows

At the end of Winter 2024, the majority of reporting sites had normal or higher monthly mean flows. The higher-than-average recharge has helped to increase baseflows in the catchments with chalk and greensand aquifers. More responsive rivers dominated by impermeable geology, which only make up a small part of SSD, have summer flows largely dependent on the immediate weather conditions.

For March the monthly mean rivers flows ranged from above normal to exceptionally high. The latest reservoir data from April 2024 reflects that all reservoir levels are currently between 95-100% full.

Groundwater

The wet autumn and winter have meant that recharge has been above average and most reported groundwater levels are above normal for this time of year (March 2024).

As of April 2024, there are currently no licence flow constraints, with all flows in rivers in SSD above the Hands-off Flow levels.

Please contact for more information:

HydrologySSD@environment-agency.gov.uk or

aep_ssd_southern@environment-agency.gov.uk

customer service line
03708 506 506

incident hotline
0800 80 70 60

floodline
03459 88 11 88

Environment Agency - Thames

Forward Look

The prospects for water resources availability for spray irrigation in Thames area are currently [GOOD](#) for summer 2024. Even if rainfall through the remainder of the year returns to around normal for the time of year, we expect to go into the summer with flow and groundwater levels at normal or higher. This will be an advantageous position and will support abstraction into summer 2024. There are no imminent concerns from a water resources or irrigation perspective. Some restrictions on abstraction may come into force towards the latter half of the summer as would be expected in any summer, particularly if conditions through the first half of the summer are hot and dry.

Background

At the end of March, river flows and groundwater levels in the Thames area were notably high or higher for the time of year at most indicator sites. This is due to higher-than-average rainfall through the hydrological winter period (October 2023 to the end of March 2024). The winter rainfall conditions have resulted in high river flows and groundwater levels across all catchments in the Thames area being in a good position for irrigation in summer 2024.

Rainfall / Soil Moisture Deficit

Over the hydrological winter period (October to end of March), the Thames area received 174% of the long-term average (LTA), making it the second wettest winter since records began in 1871. The effective rainfall (the component of overall rainfall that recharges our aquifers) for the same period was 243% of the LTA. In March we received 174% of the LTA rainfall for the month (102mm), 44% of which fell in the last week of the month. The average Soil Moisture Deficit for the area at the end of March was 1mm, slightly wetter than the LTA for the time of year.

River Flows

As of the end of March, all flow indicator sites were classed as exceptionally high for the time of year. To further illustrate this, the River Evenlode at Cassington, Thames at Windsor, Kennet at Marlborough, and Wey at Tilford recorded their highest monthly mean flow for March in their history. Despite this, most indicator sites had lower mean flows than in February. In fact, only four sites, the River Kennet at Marlborough, the River Wye at Bourne End (Hedsor) and the River Wey at Tilford and Weybridge had a higher mean flow compared to February. Daily mean flows during the middle of April generally were exceptionally high.

Groundwater

At the end of March, all key groundwater indicator sites were classed as being notably high or exceptionally high for the time of year, except for Jackaments Botton in the Inferior Oolite which was above normal. By the end of the winter period, groundwater levels of the Chalk were exceptionally high at the Berkshire Downs and South-west Chilterns; and notably high at the North Downs. The groundwater level of the Chalk at Gibbet Cottages was classed as exceptionally high for the fifth month in a row, due to continued high rainfall since the start of the winter period.

In general, the seasonal recovery of the groundwater levels over the winter period has been continual because of higher-than-average rainfall throughout Thames area since October. Groundwater levels remain in a favourable condition, in terms of abstraction, for the time of year.

Please contact for more information: IEP_THM@environment-agency.gov.uk

Environment Agency - Wessex

Forward look

The overall summer spray irrigation prospects for water availability in Wessex is [GOOD](#) and with high groundwater levels, we do not expect any spray irrigation restrictions this summer. However, if we do experience a long period of dry and warm weather, rivers without significant groundwater and spring inflows will quickly fall and licence restrictions may be enforced.

Rainfall/Soil Moisture Deficit

Very wet conditions have continued, and March recorded 178% of long-term average rainfall which is exceptional high for the time of year. The period October to March has been the wettest 6-month period on record and the last 12 months (April to March) was the third wettest on record. Soil moisture deficit remained close to zero throughout March and into April and remains lower than the long-term average.

River Flows

All our major flow gauging sites in Wessex have recorded exceptionally or notably high flows in March. Many sites had record-breaking flows including the Upper Brue at Lovington; the Yeo at Pen Mill; the Upper Hampshire Avon at Amesbury; the River Wylde at South Newton; the Middle Hampshire Avon at East Mills Combined; the Middle Stour at Hammon; Sydling Water at Sydling St Nicholas; and the Asker at Bridport East Bridge. During the middle of April, daily mean river flows were generally above normal.

Groundwater

All groundwater monitoring sites ended March with exceptionally high levels. Boreholes at Didmarton, Chitterne Down, Oakley Industrial Estate and Kingston Russell Road all experienced their highest monthly mean levels during March since their records began.

Licence flow constraints

No licences are currently restricted. The high rivers flows are above the Hands-off Flow levels.

For further information, please contact:

Drought.Wessex@environment-agency.gov.uk

Environment Agency - West Midlands

Forward look

The overall summer prospects for water resources availability for irrigation in West Midlands Area for 2024 are currently [GOOD](#).

With good winter recharge, a general increase in groundwater levels has been observed since October for all aquifers in West Midlands. A further increase is expected in the following few months in the slow-responding sandstone aquifers as catchments begin to respond to the wet February and March rainfall. Surface water flows respond quickly to rainfall. Therefore, normal river flows will be expected if average rainfall totals are recorded for spring and summer. Reservoir storage and soil moisture is also expected to remain at similar status if normal rainfall totals are observed. All catchments in the West Midlands received exceptionally high accumulated rainfall totals for the 6-month period between October 2023 to March 2024. This puts us in a good position for the upcoming summer. The Met Office 3-month outlook for the UK suggests that over the period May to July, there is a slightly increased chance of a warm 3-month period.

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Near average rainfall looks most likely, however the chances of wetter than average period are higher than a drier than average one.

Abstraction and irrigation are primarily controlled by licence conditions associated with river flow and level. Licence restrictions are triggered by notification from the Environment Agency of “hands off flow or level” (HoF/HoL) or are monitored and managed by the licence holder. During an average year it is likely that some licences will be restricted during dry periods. The proportion of licences restricted in the West Midlands and the duration they are affected depends on how resilient the catchment is to changes in water availability and whether we experience drier than average conditions.

Information on how resilient your catchment is to changes in water availability can be found in the [Abstraction Licensing Strategies \(CAMS process\)](#) by reviewing past restrictions to your licence and by contacting IEP_WMD_waterresources@environment-agency.gov.uk

Background

Overall, West Midlands received above average rainfall totals for 2023. Towards the end of 2023, West Midlands experienced a series of storm events giving rise to higher-than-average rainfall totals. This resulted in a steep upward trend in soil moisture, river flows, groundwater levels and reservoir storage. With healthy amounts of rainfall continued through to March, West Midlands is in a good position for the upcoming summer.

However, as we have seen in recent years this situation can change quickly and may result in the need to restrict abstraction licences. Please ensure you plan accordingly and maintain resilience in your water supply.

Rainfall

West Midlands received average rainfall totals during summer (June to August) 2023 compared to the long-term average (LTA). Impacted by the storms, October and December were particularly wet months with some catchments receiving exceptionally high rainfall totals. All catchments in the West Midlands received normal rainfall totals relative to the LTA for January. This was followed by a relatively wet February and March as all catchments received above average rainfall totals with some receiving exceptionally high rainfall totals for that time of the year.

By the end of March 2024, accumulated rainfall totals for the past three, six and twelve months were either notably high or exceptionally high compared to the LTA.

Soil Moisture Deficit

Although there were some dry periods during 2023 where below average rainfall was recorded, soils were eventually replenished. With plenty of rain since October 2023, soils by the end of March 2024 were either as expected for the time of year or wetter than usual.

River Flows

Surface water recovered quickly in the past 6 months, particularly as soils were already saturated from the impacts of Storm Babet in October. A relatively wet start to the year meant that river flows remained at normal or above status for the first 3 months of 2024. As of 14 April 2024, the majority of flow monitoring sites in the West Midlands are recording notably high or above normal flows with the remaining sites recording normal flows.

Groundwater

The Permo-Triassic Sandstone aquifers are the most important groundwater source in the West Midlands. They provide a high level of storage and support water supply and river base flow on a strategic scale. The storage properties of these aquifers mean that they are slow to respond but are potentially resilient to drought over one or two seasons. Currently, due to the higher-than-average rainfall over the winter period and into the spring groundwater levels are continuing to rise in response to recharge and are currently assessed as being above normal or exceptionally high. As a result, these aquifers are likely to provide a resilient water source for the coming 2024 season.

Other aquifers in the Area include the Carboniferous Sandstone, Carboniferous Limestone, Jurassic Limestone aquifers, which due to their storage properties are quick to respond to both recharge and drought conditions. Currently all of these aquifers have responded well to the higher-than-average rainfall over the last few months and groundwater levels are currently healthy. However, a return to a long dry period will see a corresponding decrease in groundwater levels.

Reservoir storage

With a good amount of rainfall throughout the past few months, all monitored reservoirs in the West Midlands are at or near full capacity as of 14 April 2024. This means that all reservoirs have normal storage compared to the LTA. Some reservoirs in the West Midlands are being managed according to agreed flood drawdown procedures.

Please contact for more information:

IEP_WMD_waterresources@environment-agency.gov.uk

Environment Agency - Yorkshire

Forward Look

Prospects for water resources availability for irrigation in Yorkshire for 2024 are [GOOD](#)

The current outlook is favourable for water availability. It is worth noting in 2018, 2020 and 2022, as soon as soils dried in these hot and dry years, the effectiveness of the precipitation that did fall was reduced significantly. This was particularly the case in 2018 where surface water flooding and high groundwater levels gave way to hot and dry conditions resulting in drought by September and drought permits in November. Yorkshire and the Northwest are particularly vulnerable to rapid onsets of drought irrespective of early summer resources. This is due to a reliance on surface water in the Pennine Region, with numerous individual reservoirs of moderate volume and rivers largely fed by rainfall and minor streams, rather than by aquifers with high storage volumes.

There are no concerns over groundwater stocks following the wet year of 2023 and into 2024, but some aquifers that are currently high such as those in the Corallian Limestone and certain parts of the Chalk could easily be become below normal by mid-summer should a dry spring materialise. Even with average rainfall in the spring it is likely to result in all aquifers being in good health at the start of the irrigation season.

Abstraction in the region is primarily controlled by conditions on licences and licence holders must ensure that they always adhere to these. If a dry summer does happen, it is still possible that we may need to implement 'hands off flow' (HoF) or 'hands off level' (HoL) conditions on licences as we would in any normal year.

Rainfall

2023 started with an extremely dry February - around 20% to 50% of monthly long-term average (LTA), and this stalled the early recharge to surface and groundwater stocks. This was followed by above average rainfall in March and from mid-June onwards. Throughout the summer months rain fell with regularity and although there were some dry periods, there were no water resources concerns in Yorkshire. During March 2024, rainfall ranged from 101% to 131% of the long-term average and monthly totals were classified as above normal in the Pennine catchments and normal for the eastern half of the area. Yorkshire recorded the wettest 9-month period from July to March in a 150-year record, and also the wettest 6-month winter period from October to March.

Groundwater

During March 2024 groundwater levels in the Principal Aquifers were between normal and exceptionally high for the time of year. Groundwater levels are still or have responded to the winter weather. This is especially true in the slow responding Sherwood Sandstone which will see its levels continue to rise as we approach spring. These levels mean that reductions in groundwater supply are highly unlikely for the spring.

For the most up to date water situation reports, please visit our website here:

[Yorkshire water situation report March 2024](#)

Please contact for more information:

AEPYorkshireandNE@environment-agency.gov.uk