28th February 2022

Initial prospects for irrigation – Area forecasts for 2022

Our initial prospects for irrigation across England in 2022 ranges from moderate to good. Further detail of the prospect for your local area can be found in this document.

Ensuring a successful irrigation season

We encourage all irrigators to understand the risks of a period of prolonged dry weather on your abstraction. We ask all irrigators to take such actions as they can to minimise the impacts on the environment and their businesses. If you believe your abstraction is at risk 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. For some areas we have provided contacts within this report.

Abstraction Licences

- Check your licence details and, at all times, adhere to licence conditions ensuring that abstractions are only taken from authorised locations, volumes are not exceeded and accurate records are kept of meter readings. In particular, 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
- We are continuing to determine licences for previously exempt activities, including trickle irrigation, by the end of December 2022.
- We have developed a secure online Water Resources Licensing Service, which can be found by searching GOV.UK for 'Manage your water abstraction or impoundment licence'.

As part of the Water Resources Licensing Service you can now:

- Submit your abstraction returns
- View your licence and previous returns
- Receive letter notifications (expiry reminders, HoF warnings and irrigation bans)
- Give permission to a named contact to manage your licence

We are also preparing to email water abstraction e-alerts to some abstractors this summer. These more timely alerts will help many abstractors make better use of water when it is available and improve protection of water rights and the environment when it is not. Not all abstractors will receive email alerts from March, but they are an important step in helping abstractors to adapt to river and groundwater levels as the climate changes. We will provide more information on the water abstraction alerts in the spring.

Voluntary Restrictions

- Comply with voluntary restrictions where they are requested. This will delay and may avoid the need for more formal restrictions.

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;

- Continue to plan for the future. Is there an opportunity to convert from direct summer abstraction to high flow storage? The Rural Payments Agency is currently inviting farmers to submit full applications for reservoir grant funding.
- Ensure your reservoir is regularly maintained, checking for cracks and leaks.
- We have a range of literature available to help support your business including Rain Water Harvesting; Think about installing an irrigation Reservoir and adopting Best Metering Practice. Guidance on the planning and design of irrigation reservoirs in Kent, jointly produced by Environment Agency, Kent County Council and EMR.
- 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.

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.
- Keep updated on the latest water situation reports at https://www.gov.uk/government/collections/water-situation-reports-for-england
- Read our latest abstraction and dry weather advice in the Farming Advice Service newsletters;
- A Water Rights Trading Map is available for East Anglia, Midlands and Lincolnshire and Northamptonshire areas.

Abstractor Groups and Guidance

- Where appropriate, discuss issues, share ideas etc. with neighbouring farmers. A number of 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 (e.g. NFU, UKIA, Cranfield University etc.);
- We have a range of literature available to help support your business including, Think about Installing an Irrigation Reservoir and adopting Best Metering Practice.

Definitions

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.

Prospects for individual areas

Area detail

Environment Agency - Cumbria and Lancashire

Cumbria and Lancashire will not be providing a formal spray irrigation prospects report at this time but the current situation is normal and if we have average rainfall then the irrigation prospect for the summer is likely to be GOOD. The last three months began dry, recently becoming wetter with soils now saturated at the end of January. Cumbria and Lancashire has quick responding rivers and therefore the surface water situation can change relatively quickly. There are no concerns with regard to spray irrigation from groundwater.

Environment Agency - Devon, Cornwall and Isles of Scilly

The overall summer prospects for water resources availability for spray irrigation in Devon, Cornwall & Isles of Scilly are currently GOOD to MODERATE.

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.

Rainfall/Soil Moisture Deficit (SMD)

Rainfall totals for Devon and Cornwall for December 2021 were 'normal' for the time of year at 101% of the LTA. Three month rainfall totals ending December 2021 were 'normal' for the time of year, as was the total rainfall over 2021. Soil moisture deficit for Devon and Cornwall was zero at the end of December, which is normal for the time of year.

River Flows

Monthly mean flows for December were all 'normal' for the time of year apart from the River Hayle at St Erth, which was 'below normal' for the time of year. Daily mean flows were healthy going into December but then receded throughout the month, many rivers reaching 'below normal' flows before 24 December. Flows then responded to the rainfall at the end of the month, some reaching 'exceptionally high' flows for the time of year before receding again. At the end of the month daily mean flows ranged from 'normal' to 'notably high' for the time of year.

Groundwater

As of December 2021, groundwater levels remain healthy. The level at one indicator borehole is 'notably high', levels at two boreholes is 'above normal' and levels at 4 are 'normal'.

Forward look

With the groundwater levels remaining healthy and the limited environmental benefit of placing restrictions in Devon, Cornwall & Isles of Scilly, we do not anticipate any restrictions with regard to irrigation in the coming months. However, due to 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. This position will be reviewed during 2022, dependent on the rainfall patterns and river/groundwater levels.

The indicative spray irrigation prospects for Devon, Cornwall & Isles of Scilly are GOOD to MODERATE for 2022.

Please contact for more information:

Emma Townsend – Drought Coordinator DCIS
Drought.DCIS@environment-agency.gov.uk

Environment Agency - East Anglia (East)

The overall summer prospects for water resources availability for spray irrigation in East Anglia East are currently MODERATE.

Background

Overall the current risk remains normal despite a dry January and start to February 2022. Wetter conditions in mid-February are resulting in good responses in flows and a complete reduction in soil moisture deficits. Under these conditions we would expect groundwater recharge to continue steadily into the spring. There is no enhanced risk of dry weather incidents occurring this summer based on current hydrological conditions.

Rainfall / Soil Moisture Deficit

Rainfall totals since October 2021 have been relatively similar across Eastern catchments and very close to the long term average, with the exception of the Essex coast from Tendring to Canvey. By late November SMD had fallen across the area to levels conducive to a rapid response to rainfall. Along this coastal strip rainfall totals between October and January were 10-15 % below average for the period. The late season elevated Soil Moisture Deficit (SMD) has seen notably reduced surface runoff totals (but not exceptionally low) in this area so far this winter.

River Flows

By December flows were being sustained above average levels allowing most reservoirs to refill for a prolonged period. Many farm reservoirs will have started at 40-50 % capacity following a wetter than usual irrigation season in 2021. Most reservoirs should therefore be on track for complete refill this winter. It is noted however there may be some localised problems along the Essex coast if the weather remains much drier than usual for the remainder of the refill season.

Groundwater

The much reduced SMD in late November allowed for recharge to commence in the major chalk, minor sand, gravel and crag aquifer units. This recovery is best described as steady and in line with the normal timing for the start of the recharge period. The chalk of north Norfolk and the coastal gravels of Essex continue to report above normal levels following two notably wet winters. The confined chalk of Suffolk continues to show below normal conditions in some areas heavily influenced by abstraction and the very dry period between 2016 and 2019. However, overall there are no notable or exceptional problems to report with groundwater levels. The low soil moisture deficit should allow for further sustained recharge through to March /April and even with late winter spring rainfall we should see slightly below average levels. Normal groundwater conditions should be sustained into the spring.

Forward look

Based on our current assessment, prospects across East Anglia East are MODERATE for 2022.

The current resource state of the Norfolk, Suffolk and Essex catchments is very close to normal for the time of year and there is nothing to report that would cause particular concern for irrigation prospects in 2022.

However at this early stage in the recharge season there is some uncertainty in these prospects. We can at best exclude the possibility of a severe surface water drought next summer but not yet the occurrence of prolonged dry weather or possibly drought conditions toward the end of the irrigation season.

Even with good recovery of the main aquifers an exceptionally dry and hot spell at the peak of the irrigation season can cause serious environmental risk to the ecology of many watercourses, particularly those with

a low natural groundwater contribution and high direct river irrigation demand i.e. rivers from South Norfolk (Waveney) to South Essex (Mardyke).

Please contact for more information:

Anna Mason – East Anglia East
easterniep@environment-agency.gov.uk

Peter Willett – Technical Specialist – Hydrology
peter.willett@environment-agency.gov.uk

Environment Agency - East Anglia (West)

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

Background

The last 3 months rainfall accumulation up to the end of January 2022 has fallen in the notably low category, 69% of long-term average with drier area to the west. River flows felt to the below the normal range or lower at most sites, and groundwater levels remain in the normal range.

Rainfall

Rainfall in the last 12 months has been within the normal range with exception of the middle level catchment that has been below the long-term average. The driest months were April, November 2021 and January 2022. November 2021 was the sixth driest November since record began in 1892 in East Anglia West and January 2022 was the seventh driest. February rainfall has been above normal with 140% of the long-term average rainfall for February in the first 20 days of the month.

River Flows

By January 2022 the river flows in the Bedford Ouse catchment did not increase as expected in the autumn-winter, due to the low rainfall in November and January. All sites in this catchment fell to below normal conditions, with exception of the Ivel catchment. The Ely Ouse and North-West Norfolk catchment sustained the river flows in normal conditions as they are groundwater fed. During the first 20 days of February, river flows has recovered to Normal conditions at all sites but the Cam catchment that remains in below normal conditions.

Groundwater

Rainfall totals in October 2021 (151% of the long-term average for that month) reduced the high soil moisture deficit, and by the end of October aquifer recharge started to take place at sites to the west of area, with sites more to the east starting the recharge a month or two later. By the end of January groundwater levels were classified normal or above. The first 20 days of February groundwater levels continue to recharge at slower rates.

More detailed information can be found in the Environment Agency Monthly Water Situation Report at http://www.environment-agency.gov.uk/research/library/publications/104036.aspx This is updated shortly after the 10th of each month.

Forward look

Prospects across the East Anglia (West) area are GOOD for 2022. Soil moisture deficit is above normal at the end of January, recharge is taking place in the North-West Norfolk chalk and the Ely Ouse and Ivel chalk groundwater levels are sustained. Groundwater levels are normal across most of the area.

River flows and groundwater levels are likely to be in normal conditions with average rainfall.

If weather conditions turn dry for spring, river flows could return to below normal levels in parts of the Ely Ouse catchment, and notably low in the Bedford Ouse catchment. Groundwater levels are expected to fall to below normal at the end of summer.

It is likely that local water management actions, using existing licence conditions, will be required in Fenland catchments during the irrigation season. Even in average conditions any dry periods during the summer can result in some form of local water management actions. These actions will most likely be required in the Middle Level, South Level, Counter Drain and/or the Hundred Foot catchments.

Please talk to us now about actions you can take by contacting:

East Anglia (West)
Andy Chapman 02030 251786 iep_ang_central@environment-agency.gov.uk

Environment Agency - East Midlands

The overall summer prospects for water resources availability for spray irrigation in East Midlands Area are currently GOOD to MODERATE.

Background

East Midlands has experienced moderately dry conditions over the winter.

Rainfall / Soil Moisture Deficit

January 2022 was a very dry month with monthly rainfall totals less than 40% of long term average. This was preceded by rainfall slightly above normal in December 2021 and only half of the long term average in November. Despite this, soil moisture deficit is generally at or near saturation and has been following the average long term trend.

River Flows

Surface water flows were generally 'Below normal' in comparison to the long term average in January. They have however responded to the wetter weather in February with all monitoring sites recording 'Normal' or above across the area (as of 15th February).

Groundwater

Groundwater levels are healthy with most sites reporting 'Normal' for January and February in comparison with the long term average.

Forward look

Prospects across East Midlands Area are GOOD to MODERATE for 2022.

There has been an adequate recharge of the aquifers. Although we have had wetter weather in February, in January and November the rainfall was below the long term average. If spring and early summer turn dry, the irrigation prospects may change.

Please contact for more information:

East Midlands Integrated Environment Planning team

WaterResources.DBNTLS@environment-agency.gov.uk

Environment Agency - Greater Manchester, Merseyside and Cheshire

Greater Manchester, Merseyside and Cheshire will not be providing a formal spray irrigation prospects report at this time but the current situation is normal and if we have average rainfall then the irrigation prospect for the summer is likely to be GOOD. The last three months rainfall was classed as normal, with soils remaining saturated by the end of January. Greater Manchester, Merseyside and Cheshire has quick responding rivers and therefore the situation can change relatively quickly. There are no concerns with regard to spray irrigation from groundwater.

Environment Agency - Hertfordshire and North London

The overall summer prospects for water resources availability for spray irrigation in Hertfordshire and North London are considered MODERATE.

Background

Local conditions have been generally drier than normal. Rainfall amounts have been below the winter seasonal average to date. Many areas in the Chilterns and Upper Lee do rely on the winter rain. Rain filters through to the groundwater and hence assists river flows and growing conditions throughout the drier months. The remaining recharge period (usually up to the end of March) will be important in demonstrating the likely direction environmental conditions could develop over the summer.

Rainfall

October's rainfall reduced most of the SMD (Soil Moisture Deficit) deficit. However, HNL has recorded lower than LTA (Long Term Average) rainfall from October to date. Effective rainfall, or recharge to the groundwater, for the winter period as of early February stands at 58% of LTA. Additional rainfall is required as soils could quickly turn drier as we move into the spring.

River flows

Monitoring locations are generally showing flows within their normal range. This does mask some wider variation from our local river source inspections. Early signs of headwater and flow decline can be seen in a number of HNL Chalk streams. The Rivers Misbourne, Ver, Beane, Ash and Stort are showing these signs of decline. The urban and clay based rivers have a far greater fluctuation in flows closely linked to rainfall events. An extended dry period will result in a noticeable decline in flow patterns across these river systems.

Groundwater

January 2021 saw the peak in groundwater levels, which fell during the rest of the year. This winter's recharge has been modest, and although levels remain in the normal banding, additional rain is needed to support the groundwater levels. There is a likelihood where levels do not increase further that groundwater conditions could decline early during the spring. Groundwater is a key component for providing flow to many local Chalk streams. The higher the groundwater level recovery, the greater potential for flow resilience during the spring and summer months.

Forward Look

Irrigation prospects for 2022 across Hertfordshire and North London are considered moderate with seasonal constraints being activated during the summer period.

Further rain will assist in supporting river flows and will help to prevent the early drying out of soil conditions. The likelihood without such rain, then drier soil conditions could develop during the spring and early summer period.

We will continue to monitor river flows and groundwater levels. This data is published and available to irrigators via https://www.gov.uk/government/publications/water-situation-local-area-reports

If you would like further information please contact: alastair.wilson@environment-agency.gov.uk or call 0203 025 8953.

Environment Agency - Kent, South London and East Sussex

KSL Area is not producing a full Area 'indicative irrigation prospects' report prior to April when we normally issue our irrigation prospects for the summer season.

Over the winter period so far (Oct 2021 to 31 Jan 2022) we received 87% of the Long Term Average (LTA) rainfall to date with effective rainfall for the same period at 84%. This is in contrast to the previous wet winter. As a result, in Kent and South London (KSL) Area the water resource availability outlook for the 2022 irrigation season is: MODERATE.

Despite the relatively dry winter so far, groundwater resources which support many catchments, remain in a favourable condition, and there are no imminent concerns from a Water Resources perspective and irrigation outlook. However, if the drier than normal winter persists with a subdued aquifer recharge period this is likely to widely translate into flow constraints being triggered earlier than normal in the irrigation season. A more detailed irrigation prospects report will be developed in April ahead of the summer irrigation season.

Please read the latest Water Situation Reports here to view Kent & South London Area's water resource situation in more detail.

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

Environment Agency - Lincolnshire and Northamptonshire

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

Background

Slightly above average rainfall between October and December 2021 meant that recharge began in late autumn and river flows and groundwater levels rose in line with the seasonal trend. The weather then turned dry in January 2022 with the area receiving just 19mm of rainfall, 36% of the long term average for the month. This caused river flows to fall and stopped the seasonal rise in groundwater levels. However, after a wet February river flows have increased and groundwater recharge has started again.

Rainfall / Soil Moisture Deficit

After an exceptionally dry January, February has been wetter than average. At the start of February soil moisture deficits were above normal for the time of year and groundwater recharge had largely stopped. The wet February has meant that soil moisture deficits have now reduced and recharge has started again.

River Flows

River flows were generally in the normal range during the October to December 2021. January 2022 started with normal flows but over the month the flows gradually reduced and at the beginning of February were mostly classified as below normal. Since then the wet weather during February has seen flows recover and most flow monitoring sites are now classified as above normal for the month so far.

Groundwater

Groundwater levels at most sites in both the oolitic limestone and chalk aquifer are classified as normal. The exceptionally dry January 2022 has meant that groundwater levels have either stopped increasing or have started to fall. The wet weather during February has meant that levels at some sites have started to rise again.

Forward look

Prospects across Lincolnshire and Northamptonshire area are GOOD for 2022.

With average rainfall we are likely to see normal or below normal groundwater levels leading to slightly weakened baseflows in groundwater fed rivers.

With 80% of long term average rainfall groundwater levels are likely to be below normal leading to reduced baseflows in the groundwater fed rivers. The River Welland and River Nene are also likely to have below normal flows.

It is possible that local water management actions will be required across the area during the irrigation season. As even in average conditions any dry periods during the summer can result in some form of local water management actions.

Please contact for more information:

Drought.LNA@environment-agency.gov.uk

Environment Agency - North East Area

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

Background

Wet weather returned in October 2021 with monthly totals classified as 'above normal'. Soil moisture deficits decreased in response to the wetter weather and soils were once again classed as either 'normal' or 'wet'. For the first time in several months, reservoirs stocks began to increase though total stocks remained below average. The majority of November was fairly mild and dry, recording 83.1% of the monthly LTA. Most of the month's rain came from Storm Arwen which arrived on the 26th producing large amounts of rain, strong winds and, in some areas, snow. December's weather was quite variable with below average rainfall recorded in the Tees and Wear catchments and above average rainfall recorded in other parts of the North East.

Rainfall / Soil Moisture Deficit

The 12 months up to and including January 2022 have been fairly dry with cumulative rainfall totals generally below the long-term average. The Tees catchment is the driest of all North East catchments falling within the 'exceptionally low' category in January and over the last 3 and 6 cumulative months. January was an extremely dry month with 'exceptionally low' monthly rainfall totals recorded in all catchments. Total rainfall (as a percentage of the long-term average) for hydrological areas across the North East area for January 2022, the last three months, the last six months, and the last twelve months, classed relative to an analysis of respective historical totals. By October soil moisture deficits had declined and in November all soils were saturated and fell within the 'wet' category where they continue to remain now.

River Flows

River flows have varied quite considerably throughout the year. January and February 2021 saw the highest flows with most indicator sites recording 'exceptionally high' or 'notably high' monthly mean flows. From Spring onwards river flows declined to 'normal' flows and by summer most sites had observed 'exceptionally low' or 'notably low' flows. Some recovery was seen in October through to December, though by January 2022 river flows had declined once more.

Groundwater

Groundwater stocks have recovered to normal or above-normal levels for the time of the year. However, in general, groundwater levels are falling, in line with generally dry conditions across the North East area in the last three months of 2021 and into January 2022. This falling trend is expected to continue into early 2022 in the less responsive parts of the area's aquifers due to lack of recharge, although groundwater stocks in these parts are currently above those expected for the time of year.

Forward look

Prospects across the North East area are GOOD for 2022. The rainfall outlook issued by the Met Office suggests over the period January to March there is a below normal chance of dry conditions. River flows are likely to be in the normal range throughout the UK possible exceptions to this are the region of North East England where flows may be above normal.

Restrictions

Within the North East Area abstraction for irrigation purposes mostly takes place within the Till catchment of North Northumberland or the Lower Tees catchment of North Yorkshire and Tees Valley. There is only limited irrigation activity in the Tyne, Wear and Northumberland catchments.

Irrigators on the Tyne, Tees and Wear are mostly supported by reservoir releases. Proposed changes to the EA's charging regime for abstraction may mean that cessation conditions previously applicable to some of these licence are no longer applicable from the 1st April 2022. The EA will contact individual license holders to inform them if any changes to cessation conditions do occur, or, if existing licence conditions remain in place and need to be considered.

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. Any queries about licence conditions should be sent to water.resources.northeast@environment-agency.gov.uk.

Please contact for more information:

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

Hydrology: hydrology.northeast@environment-agency.gov.uk

Environment Agency - Solent and South Downs

The overall summer prospects for water resources availability for spray irrigation in Solent and South Downs are currently MODERATE. Although most groundwater levels are indicating "**normal**" values (as of 31st January) the lack of recharge this winter would mean that in most of the relevant catchments hot dry summer conditions could result in the need to implement licence restrictions, such as hands off flow conditions.

Background

Overall winter 2021-2022 has been dry to date. SSD is heavily dependent on groundwater so prospects for summer rely on the extent to which the Chalk and Greensand aquifers are replenished. So far this winter there have been some wet periods, but prevalent drier conditions have caused interruptions to the recharge process.

Rainfall / Soil Moisture Deficit

The "recharge season" started well. Rainfall in October 2021 was well above average, but November was the second driest on record (back to 1910) and in some catchments the driest. This heavily curtailed the recharge process. The dry conditions continued into December but a very wet end to the month saw it recording average rainfall. The weather in January has been dominated by high pressure systems. This has resulted in another below average rainfall month with less than 40% of long-term average for SSD as a

whole. Despite the below average rainfall to date, Soil Moisture Deficit at the end of January was close to the average meaning that soils were slightly dry for the time of year.

River Flows

At the end of January 2022 the majority of the main reporting sites had **below normal** monthly mean flows. For the more responsive rivers dominated by impermeable geology this is not a major concern as they respond more quickly to changes in rainfall. However, for the River Test which is the largest river in SSD and is a Chalk stream this does have implications for the summer as it means baseflows are already lower than average.

Groundwater

Summer 2021 in SSD was wetter than average so groundwater levels ended the summer higher than average in most locations which has helped the situation to date. As mentioned above groundwater recharge is critical for SSD prospects and so far recharge has been below average. Despite reported groundwater levels being in the **normal** range at the end of January the groundwater levels at several sites are below the mean.

Forward look

Prospects across Solent and South Downs are MODERATE for 2022 unless there is a significant increase in rainfall over the next few months. Modelled forecasts are presented below.

Please contact for more information:

Tony Byrne or Bethan Davies: ***HydrologySSD@environment-agency.gov.uk***

Environment Agency - Thames

The overall summer prospects for water resources availability for spray irrigation in *Thames area* are currently MODERATE.

Background

At the end of January, river flows in the Thames area were below normal for the majority of indicator sites. Groundwater levels (as of January 2022) were normal at most indicator sites. This is due to notably low rainfall in January, and average rainfall in December. Soil Moisture Deficit at the end of January is calculated to be 2mm.

Rainfall / Soil Moisture Deficit

Over the winter period so far (October to end of January), the Thames area received 70% of the Long-Term Average (LTA) effective rainfall. January was exceptionally dry, during which Thames area received 32% of the LTA rainfall. The average Soil Moisture Deficit for the area at the end of January was 2mm, about average for the time of year.

River Flows

As of the end of January, the majority of flow indicator sites were below normal, with the exception of the River Kennet at Marlborough and the River Wye at Bourne End, both of which were normal.

Groundwater

Groundwater levels at most indicator sites were normal for this time of year. Groundwater levels in the Oolites, where response times are relatively quicker, reflected the changes in the rainfall throughout the winter period. Ampney Crucis in the Oolites recorded a severe decline from above normal at the end of December to below normal in January. Levels at Jackaments Bottom in the Oolites were recorded as notably low at the end of January. Groundwater levels in the Chalk have started their seasonal recovery,

which was delayed due to the relatively dry conditions over the winter period so far, and remained normal for the time of year.

Forward look

Conditions have turned more unsettled at the start of February, but flows are mostly a little lower than expected for this time of year, as well as groundwater levels at some sites also being lower than expected. If rainfall through the remainder of the winter period remains below the long-term average, it is expected that hands off flows and levels may come into force by mid-summer, earlier than in 2021.

In this early assessment therefore, spray irrigation prospects across Thames area are MODERATE for 2022.

Please contact for more information:

IEP_THM@environment-agency.gov.uk

Environment Agency - West Midlands

The overall summer prospects for water resources availability for spray irrigation in West Midlands Area are currently GOOD.

As we have seen in recent years this situation can change quickly and result in the need to restrict your licences from early to mid Summer. Please ensure you plan accordingly and maintain resilience in your water supply.

Rainfall / Soil Moisture Deficit

January's Midlands Water Situation Report showed rainfall totals of less than 40% of the long-term average (LTA) which equates to below normal or exceptionally low for the time of year. In November 2021 and January 2022, the West Midlands area received below average rainfall. In October and December 2021 almost all the West Midlands received above average rainfall.

West Midlands soils overall have been wetter than the soil moisture LTA for the whole period of October 2021 to January 2022. As of the end of January 2022 the soils are either at or near saturation.

Considering the last 3 months rainfall compared to the long-term average for the Midlands the range has been from normal to exceptionally low across the area.

Conversely, February's recent storms has meant an average of 60% of the monthly LTA rainfall falling on the Severn catchment over a few days resulting in February totals being over one and half times the LTA (158% LTA) for the month already.

River Flows

Prior to the February storms most rivers were recording below normal flows for the time of year except for the north of the area where they remained normal. However, with the current rainfall we are experiencing exceptionally high river levels.

Groundwater

Groundwater supplies can support watercourse flows during the summer, which may be needed if the coming months are dry. Currently most sites in the Midlands are normal or above for the time of year.

The principal aquifers of the Permo-Triassic sandstones in the West Midlands are a large store of groundwater and relatively resistant to drought conditions. The key indicator Permo-Triassic sandstone sites across the West Midlands are all within normal or higher ranges for the time of year. The recovery although not as significant as in recent years will serve to provide resilience to support surface water flows into the summer months.

Reservoir storage

Four out of ten of the Midlands reservoirs are below the long-term average for the time of year. The rest are above the LTA but not (as of the end of January) full.

Reservoir stocks and groundwater levels are healthy for the time of year, so the prospects are good for water availability for 2022. However, this may change depending on the weather and amount of rainfall received in future months.

Forward look

Although spray irrigation prospects are currently good across the West Midlands area, abstraction licence Hands off Flow restrictions may still be imposed on surface water abstractions if the weather becomes hot and dry. We will review this information and provide an update at the end of April/early May. Prospects could change if the weather conditions are dry in the intervening period. Please see our Citizen Space link on working collaboratively to support access to water: https://consult.environmentagency.gov.uk/water-resources/water-resources-priority-catchments/.

If you would like further information please contact: IEP_WMD_waterresources@environment-agency.gov.uk

Environment Agency - Yorkshire

Prospects for water resources availability for spray irrigation in Yorkshire for 2022 are GOOD to MODERATE.

Background

Groundwater stocks, although mostly in normal ranges, are not at the elevated levels seen in 2018 and 2020. The 2021 summer did not result in any significant water scarcity across the region. However, the late summer dry weather, particularly in early September, resulted in some extremely low flows in parts of the county. 2022 began with most but not all storage reservoirs across the region at 100% full for all purposes (Navigation, Public Water Supply, and Agriculture).

Rainfall

The average rainfall in autumn and early winter saw groundwater recharge, with many river flows and storage reservoirs refilling, especially in the South and West of Yorkshire. However, 2022 started with an extremely dry January.

River Flows

January 2022 stalled the recharge to surface and groundwater stocks; although surface water can recover quickly in winter if ground conditions are still wet. Any significant rainfall in February, March or April will be enough to top up surface water stocks and flows for the start of the summer,

Groundwater

January 2022 groundwater levels in the Chalk, Sherwood Sandstone, Magnesian Limestone and Millstone Grit are all Normal for the time of year with the Corallian Limestone marginally Below Normal. These levels mean that reductions in groundwater supply are unlikely for the main irrigation season, but the remaining months of recharge will play a significant role in groundwater availability in late summer. If recharge remains low into the summer of 2022 the focus would be on the winter of 2022 to 2023. The slow response time of some of the county's groundwater supplies means that impacts of dry weather are 12 months behind those on surface water, apart from some limestone sources that respond like a surface water system.

The Met Office is currently forecasting unsettled spells of weather to continue throughout most of February, with a possibility of drier conditions returning during March.

Forward look

Spray irrigation prospects are currently GOOD to MODERATE for spring/summer 2022.

Slow recharge for the remainder of the winter and an early heatwave like that of 2020 would not provide stocks with the additional pre-summer top up that bolstered resilience of both surface and groundwater in 2018 and 2021. Therefore, we are still exercising caution at this stage, and more information about summer water resilience will be available once the winter period ends in April. Whilst groundwater levels mostly remain within the Normal range for this time of year, curtailed recharge over autumn/winter 21/22, means they are beginning to decline across Yorkshire. This is an early decline due to the dry January and means that if there is lower than normal precipitation in the coming months, groundwater levels are likely to continue this decline.

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 materialise, 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.

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

https://www.gov.uk/government/statistics/water-situation-report-yorkshire-and-north-east

For more information please contact us by emailing AEPYorkshireandNE@environment-agency.gov.uk

Environment Agency - Wessex

The overall summer prospects for water resources availability for spray irrigation in Wessex are currently MODERATE.

Background

With reduced rainfall over the last three months, groundwater levels and river flows in Wessex are generally below average. Average rainfall during February and March would improve the situation.

Rainfall / Soil Moisture Deficit

Wessex received only 38% of the long-term average rainfall in January and almost all catchments within Wessex have received 'Exceptional low' rainfall in the last three months. There is a small soil moisture deficit, but this is within long term average trends.

River Flows

January has seen an overall decrease in daily flows and 14 of 20 river flow monitoring sites are 'Below normal' with the rest 'Normal'. Whilst many of these are on flashy catchments and have been affected by the reduced rainfall, a few are on the chalk aquifers and are more dependent on groundwater levels.

Groundwater

Two of the eight Wessex Area groundwater monitoring boreholes are 'Below normal' and one 'Notably low'. All the other boreholes are at 'Normal' but indicating slightly lower groundwater levels than 2021 with the reduced recharge. Rainfall over the next few months would improve the situation.

Forward look

Prospects across Wessex are MODERATE for 2022 but there are no major concerns and average rainfall would improve the situation. Currently five licences are required to cease due to low flows. Of these, three are for spray irrigation.

Please contact for more information:

Jonathan Gilling, IEP, Area Drought Coordinator, jon.gilling@environment-agency.gov.uk