Water Situation Report

Winter 2023

Winter has been drier than average across most of the country, in contrast to the wet autumn.

A particularly dry February has led to lower than normal river flows and groundwater levels for this time of year. Conditions over spring will therefore be key to the risk of water scarcity this summer.

Introduction

Many areas in the east suffered from water scarcity over the 2022 summer due to drier than average conditions throughout winter and spring.

The conditions over autumn and winter have a major influence on water resources and the risk of water scarcity in the following summer. Rainfall and snow over this time replenishes water stores in the ground, lochs and reservoirs. The stores that are built up in winter usually deplete over summer as more water is lost from the system than is put in, until the cycle begins again the next autumn.

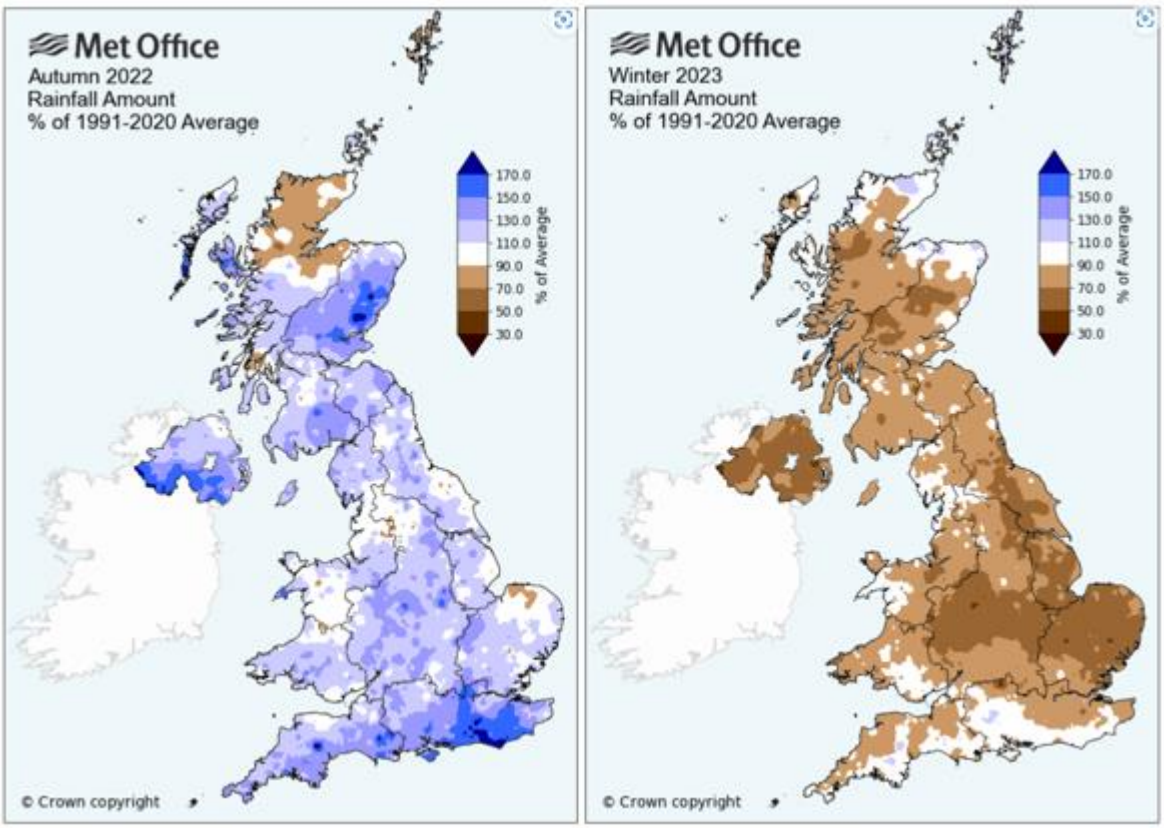
This report reviews the conditions over the past 3 months (December, January, February) to summarise the end of winter water situation.

Situation Summary

A relatively wet autumn, especially in the east, led to good recovery from water scarcity. Rainfall for the winter period has been below the long-term average for most of the country, creating a mixed picture over the autumn-winter period. Some areas in the north have been below long-term average rainfall for both autumn and winter.

Groundwater levels at our monitored locations showed recovery over the first part of the winter period, with several sites recording high levels into January. Since then, levels have fallen and are currently slightly below normal conditions for the time of year.

Rainfall and river flows show a mixed picture over the winter period, with short lived extremes of high and low rainfall causing similar extremes in river flows, particularly in the south and east. The met office figures below show autumn average rainfall was above average, whereas the winter period experienced below average rainfall. Monthly average rainfall has been particularly variable in some areas with the east receiving 150% of the long-term average rainfall in November, then just 55% of the long-term average in February.



Forecast

The outlook for the March - May period suggests that across the UK the chance of a cold March is higher than normal. From April, the chance of a warm period is higher than normal, with a higher than normal chance of a dry spring.

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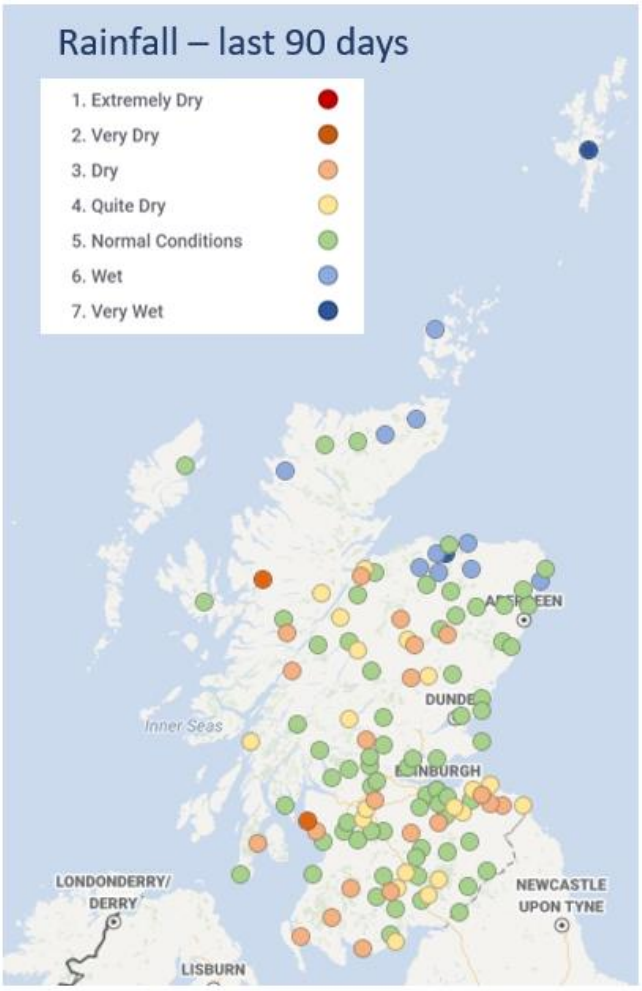
Advice for water users

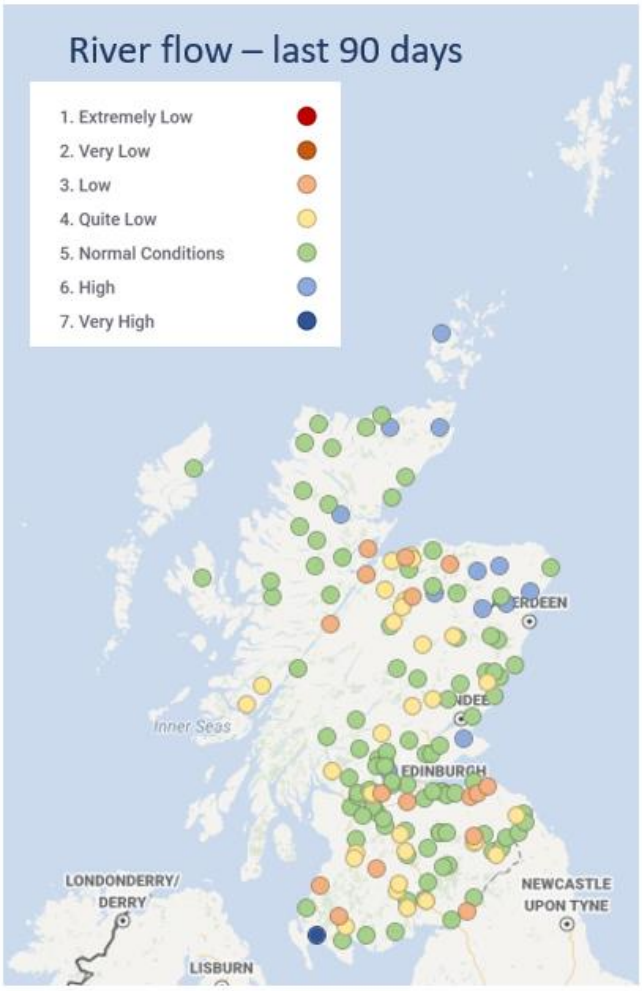
Everyone is strongly encouraged to plan and increase their resilience to the impacts of prolonged dry conditions. By taking the right steps now, it could help reduce the impact of water scarcity in the future. [Water scarcity - plan ahead and use water wisely (sepa.org.uk)]

Supporting information

Rainfall and river flows:

These maps show rainfall (left) and river flow (right) relative to the long-term average for this time of year over 90 days. The picture has been mixed over the winter period with short lived extremes of high and low rainfall causing similar extremes in river flows, particularly in the south and east. However as shown by the average of the last 90 days overall conditions are at normal or slightly below normal in most areas.

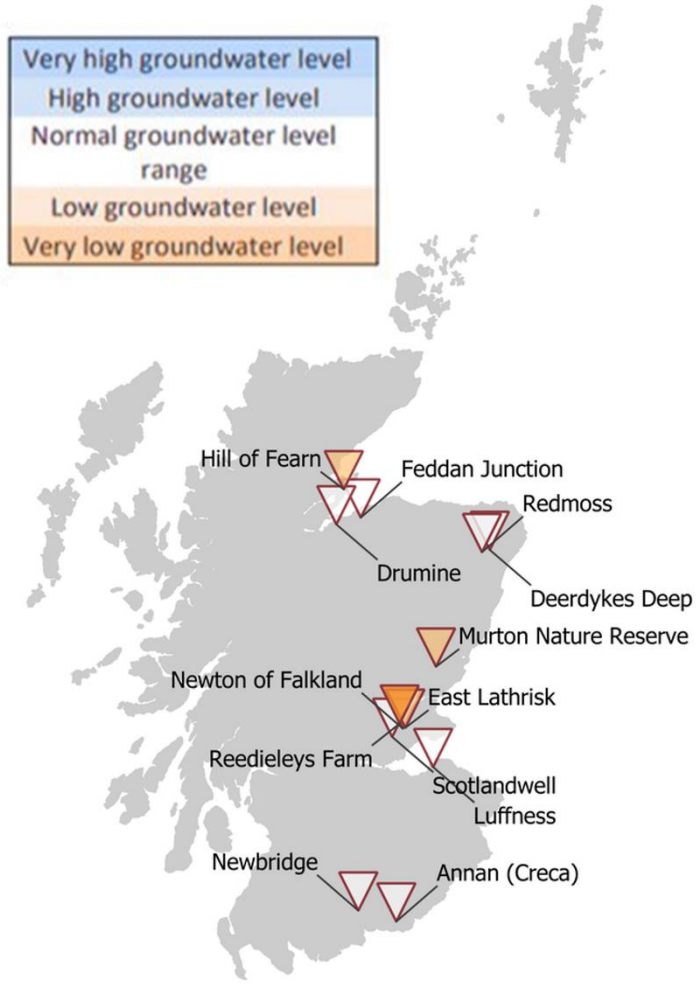




Groundwater levels:

Natural water storage situation

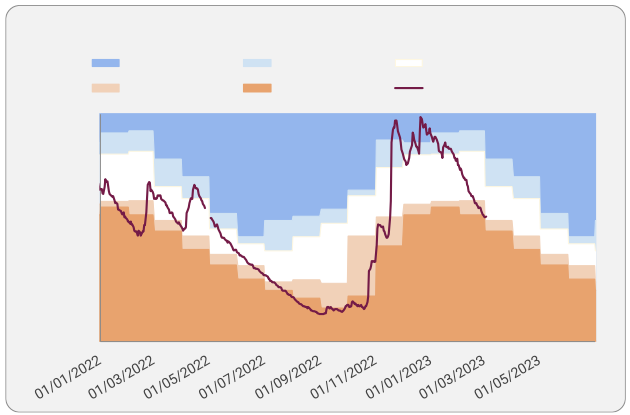
In each river catchment there is some degree of water storgae, which can maintain river flows even when it is not raining. this natural water stroage is mainly held in lochs and groundwater. When natural storage has been depleted it will take a lot of rainfall for levels to recover.

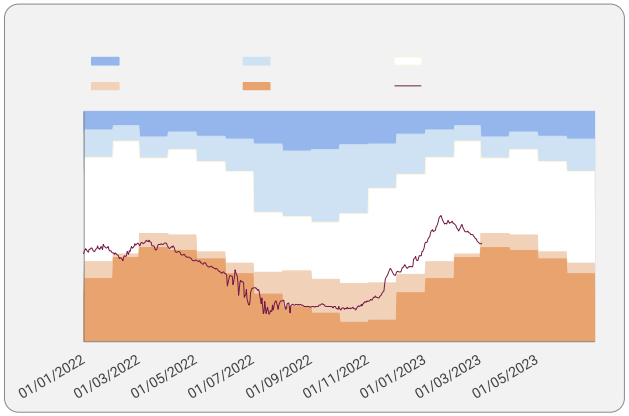


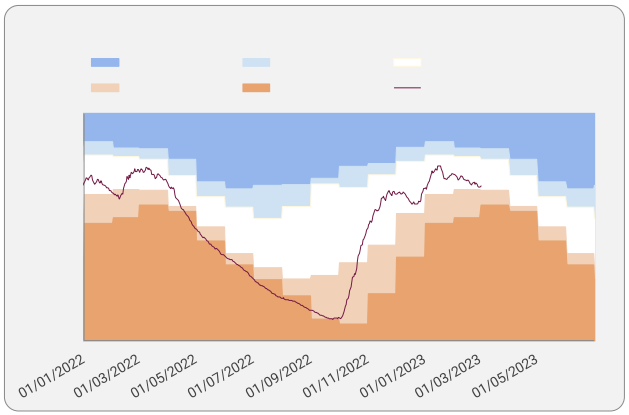
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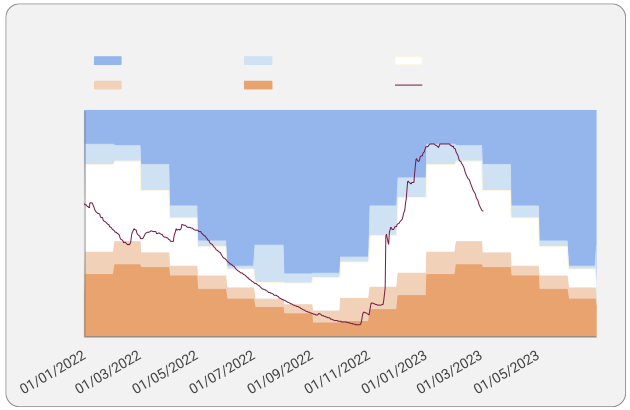
Loch level data is not currently available.

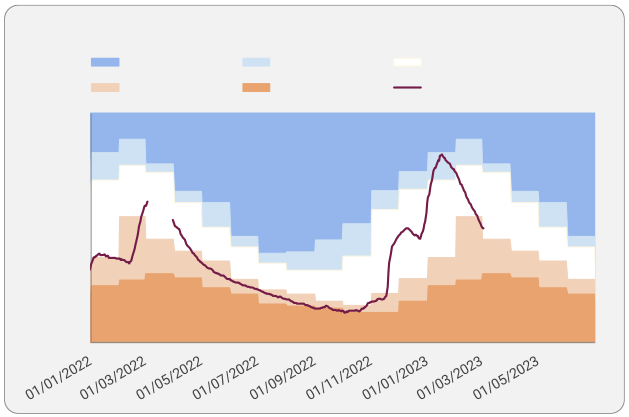
The following charts show the trend in groundwater level since January 2022 for selected monitoring sites (see map above). The dark line shows the recorded groundwater level. This is plotted over level trend bands, which are based on the long-term record of mean monthly level value.

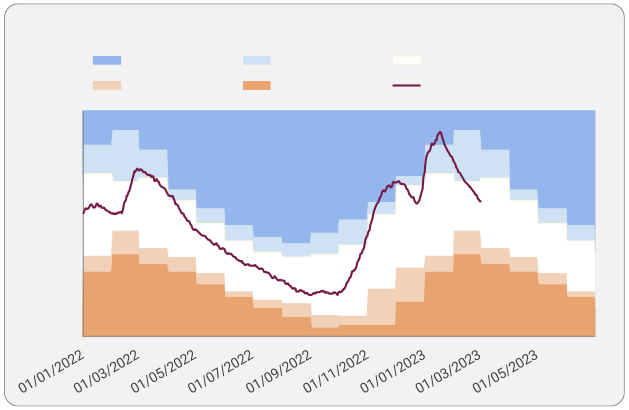

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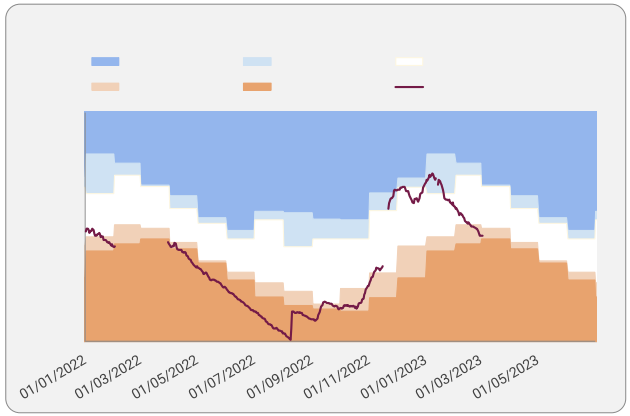

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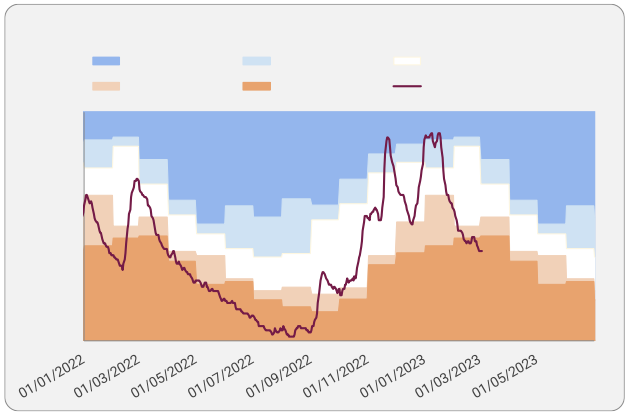

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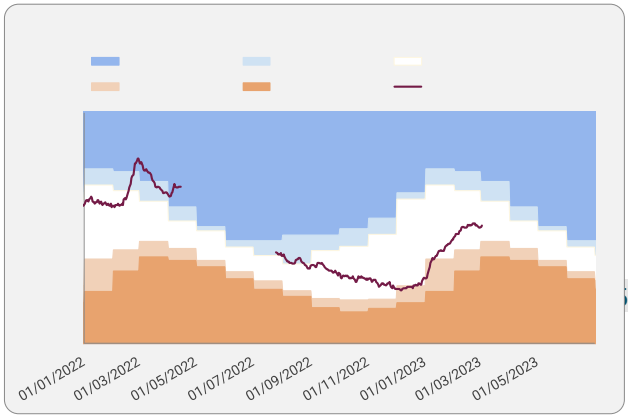

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Flow, rainfall and groundwater data are accessible via SEPA's time series data service (API). SEPA's live data are subject to ongoing quality control and periodic review.

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