

MARLBOROUGH FLOOD RISK

Drop in meeting April 2025





The River Kennet is a chalk stream.

Chalk streams are characteristically gentle, low energy rivers flowing with clean, cool water from natural underground aquifers.

The temperature is constant year round, and the flow steadily builds in the winter and declines through the summer.

Spring flooding is usually contained on the flood plains, which historically were managed as water meadows.



However, extremes of weather, and changes in land use can cause chalk streams to flood in a way that causes damage and disruption.

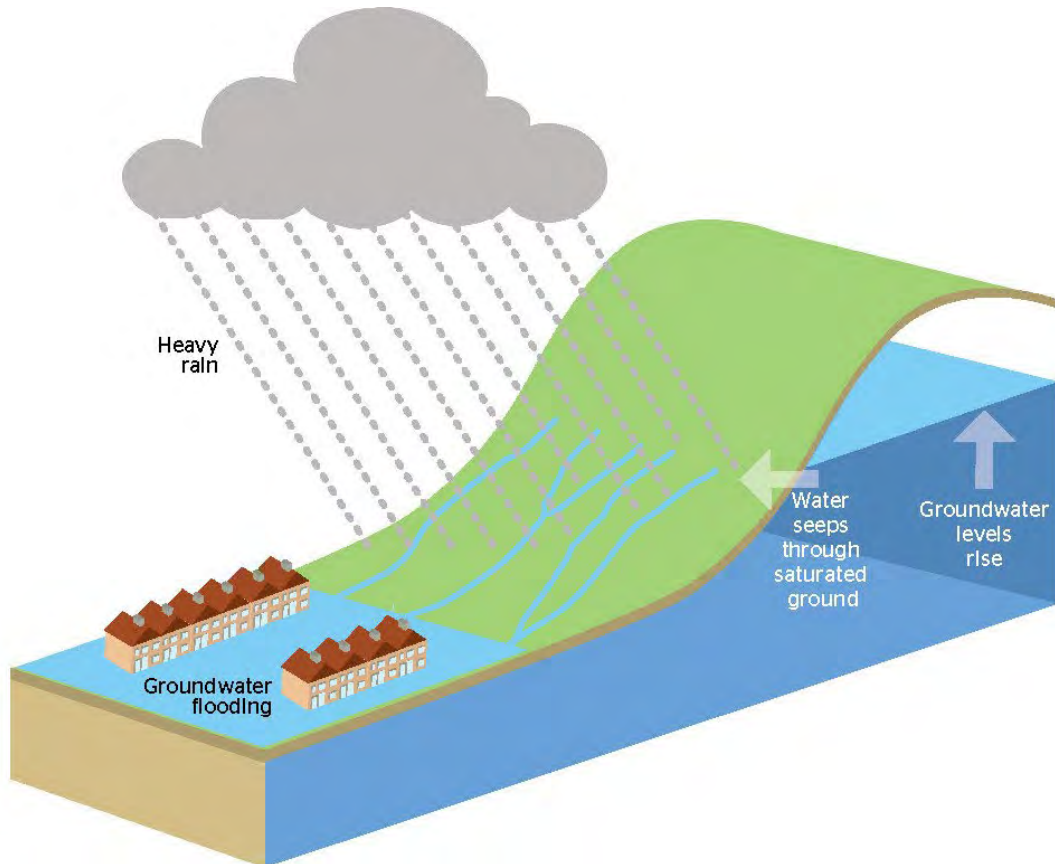
We can expect climate change to make these events greater and more frequent, interspersed by periods of drought.

The flood dashboard was developed by the Pang Valley Flood Forum for Marlborough Town Council with ARK.

It does not replace EA Flood Warnings, but provides easy to find, up to date information and tools.

There are 3 types of flooding

GROUND WATER FLOODING



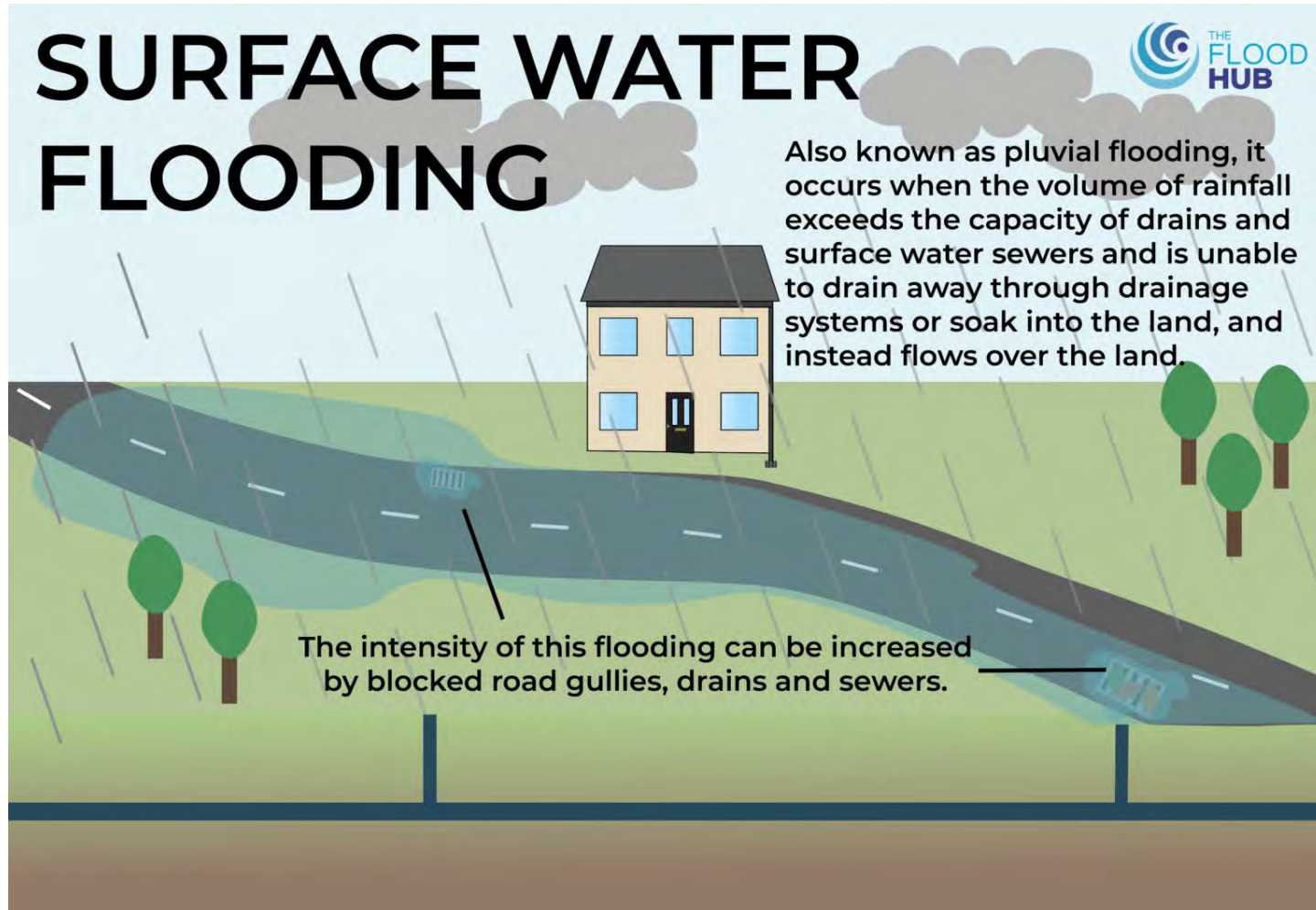
Groundwater flooding is typical of chalk areas like the Kennet Valley. The geology of the catchment is one of the map layers in the dashboard.

Rain water stored in the natural aquifer overflows to the surface, creating temporary springs and flooding low lying areas.

This type of flooding is very hard to control, often lasts for weeks, and in homes can appear through the floor.

It only happens when ground water levels are exceptionally high, usually in winter and spring.

Marlborough flood dashboard



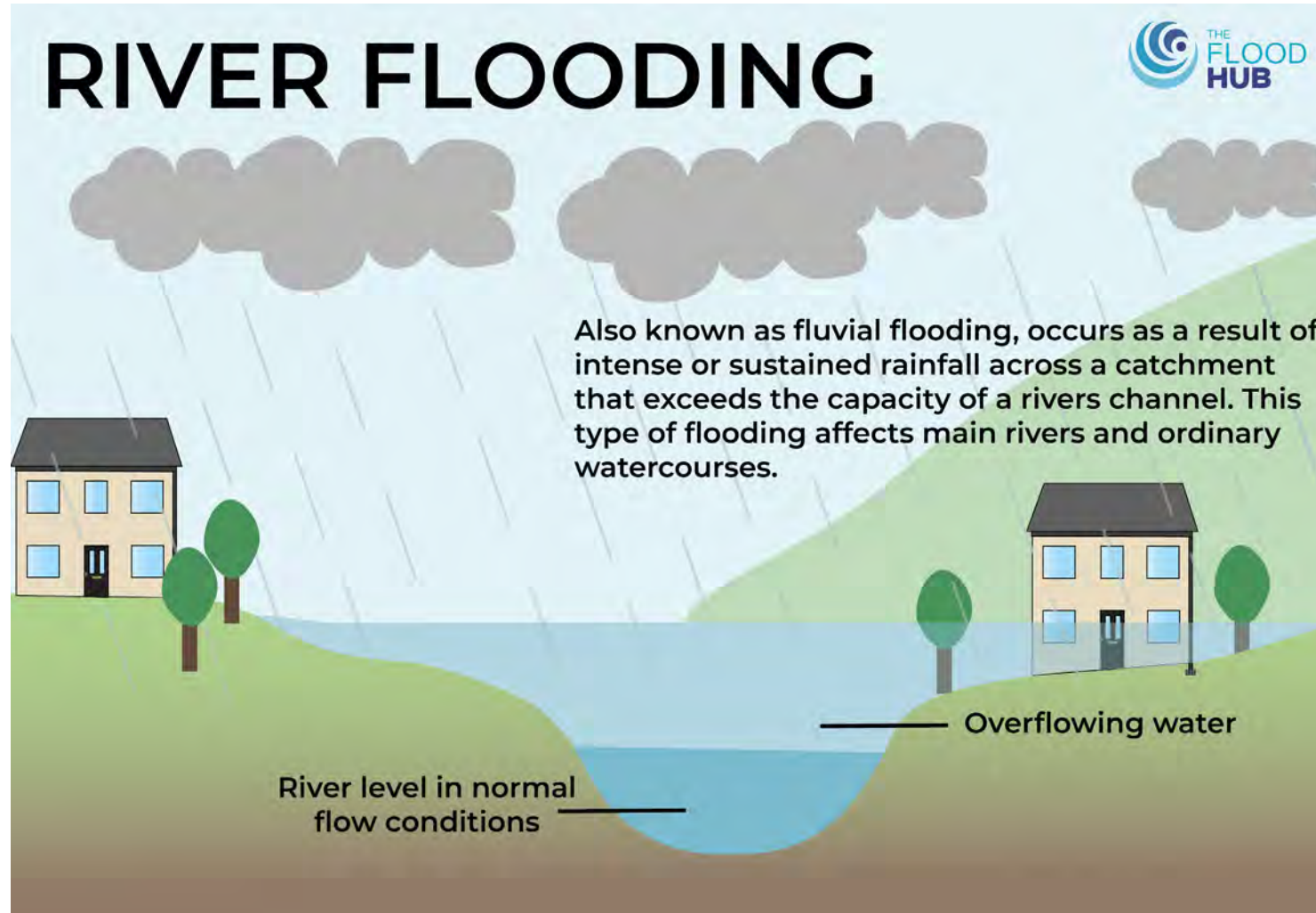
Surface water flooding is caused by heavy rain.

Rain water lands on roofs and the ground, and can't escape fast enough.

Surface water flooding is associated with urban areas with no green space to soak up rain and drains that can't cope. However hard-baked summer soils, and fields compacted by heavy machinery can also result in surface water flooding.

Surface water flooding can happen at any time of year. It is often associated with summer storms, but in chalk catchments high winter groundwater can make surface water flooding worse.

Marlborough flood dashboard



River flooding happens when there is too much rain in the catchment for the river to convey downstream without breaking its banks.

The pinch points in rivers are often bridges and urban areas where the river narrows and there is no safe place for water to escape.

River flooding often moves down the catchment in a wave. Tracking river levels upstream can provide warning of floods to come. In the Marlborough catchment the Winterbourne levels are approximately 17 hours ahead of the Marlborough levels.

Marlborough flood dashboard

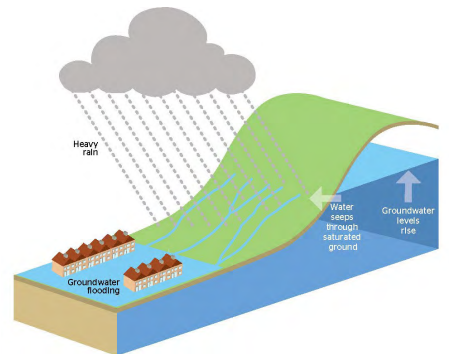
3 groundwater level gauges

4 Rainfall gauges

3 river level gauges



GROUND WATER FLOODING



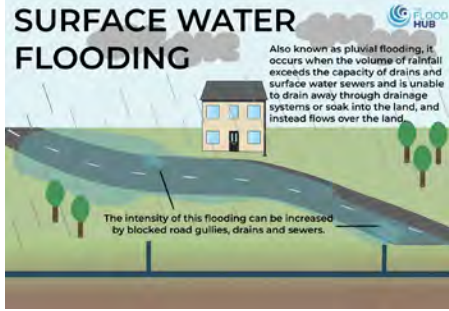
Heavy rain

Water seeps through saturated ground

Groundwater levels rise

Groundwater flooding

SURFACE WATER FLOODING

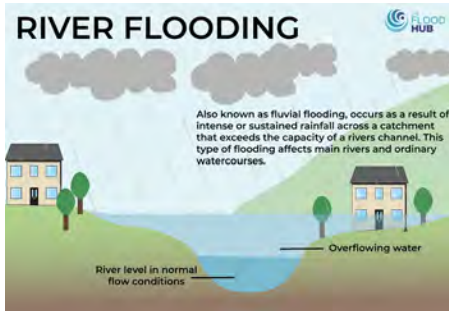


Also known as pluvial flooding, it occurs when the volume of rainfall exceeds the capacity of drains and surface water sewers and is unable to drain away through drainage systems or soak into the land, and instead flows over the land.

The intensity of this flooding can be increased by blocked road gullies, drains and sewers.

FLOOD HUB

RIVER FLOODING



Also known as fluvial flooding, occurs as a result of intense or sustained rainfall across a catchment that exceeds the capacity of a rivers channel. This type of flooding affects main rivers and ordinary watercourses.

Overflowing water

River level in normal flow conditions

FLOOD HUB

Marlborough flood dashboard

The dashboard collects information from:

3 groundwater level gauges

3 river level gauges

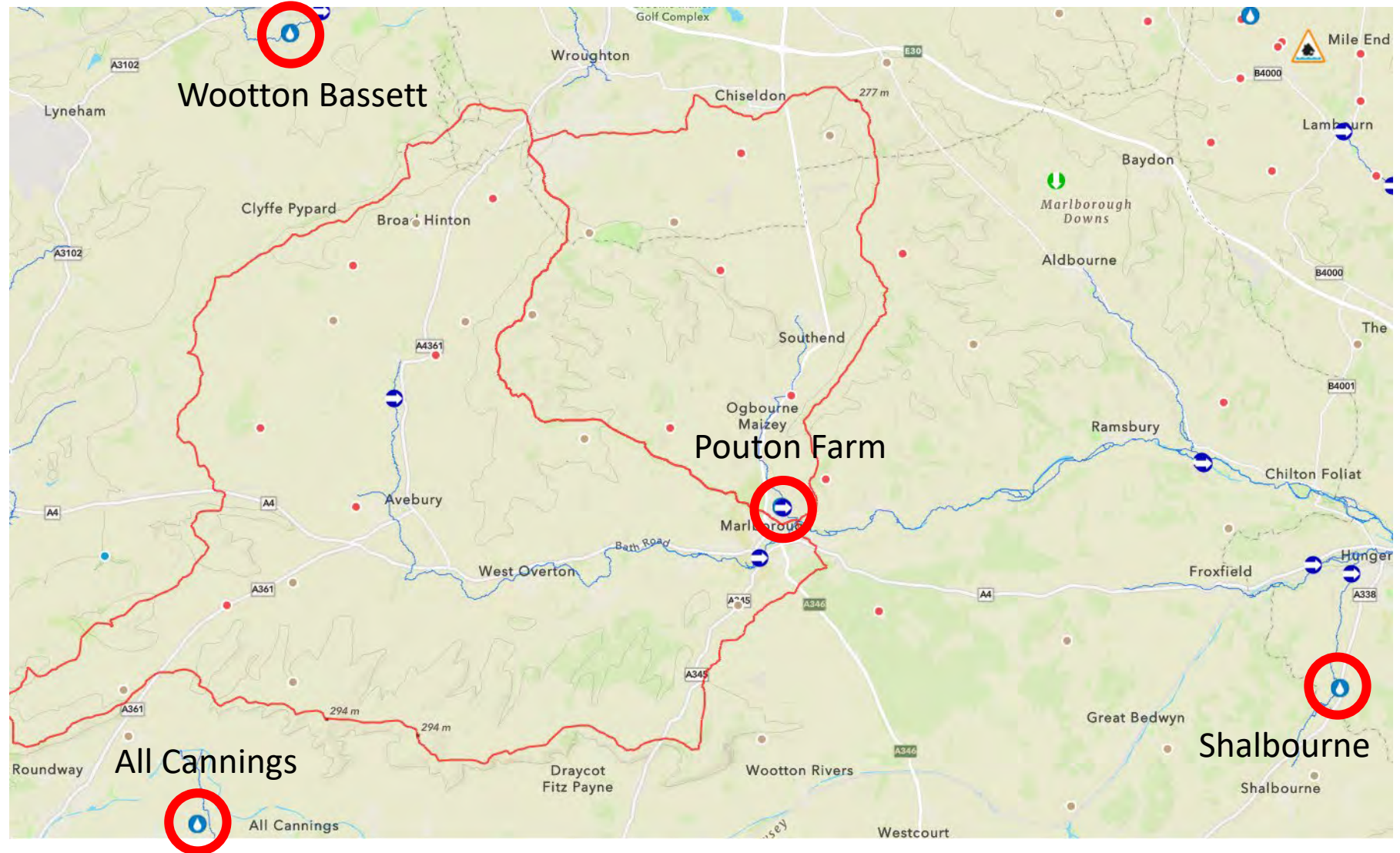


Marlborough flood dashboard

The dashboard collects information from:

4 Rainfall gauges:

- Poulton Farm (limited history),
- All Cannings,
- Wootton Bassett
- Shalbourne



Flood dashboard

Find it on the ARK (www.riverkennet.org/about-the-river/flood) and the Marlborough Town Council websites. The link is: [Marlborough Flood Info](#)

If there are any flood advisory statements or warnings in place this box will show.
If not, you'll go straight to the dashboard

[Marlborough Flood Info](#) [Dashboard](#) [Map](#) [Marlborough Town Council](#)


Flood Guidance Statement


Issued Tue, 04 Feb 2025, 10:30 GMT


The [Flood Forecasting Centre](#) has issued a Flood Guidance Statement for an area that includes **Wiltshire**.

Headline Modified Tue, 04 Feb 2025, 10:22 GMT
Minor groundwater flooding impacts are probable in parts of the South of England from today (Tuesday) through Saturday. The overall flood risk is LOW.

Forecast Published Tue, 04 Feb 2025, 10:22 GMT
Local flooding from groundwater is probable from today (Tuesday) in parts of the South of England. Land, roads and some properties could flood and there could be travel disruption.

[More detailed map with Specific Areas of Concern](#) 

[Full Flood Guidance Statement pdf](#) 



Tuesday	Wednesday	Thursday	Friday	Saturday
4 Feb 2025	5 Feb 2025	6 Feb 2025	7 Feb 2025	8 Feb 2025
Trend since last FGS				
Steady →	Steady →	Steady →	Steady →	Steady →

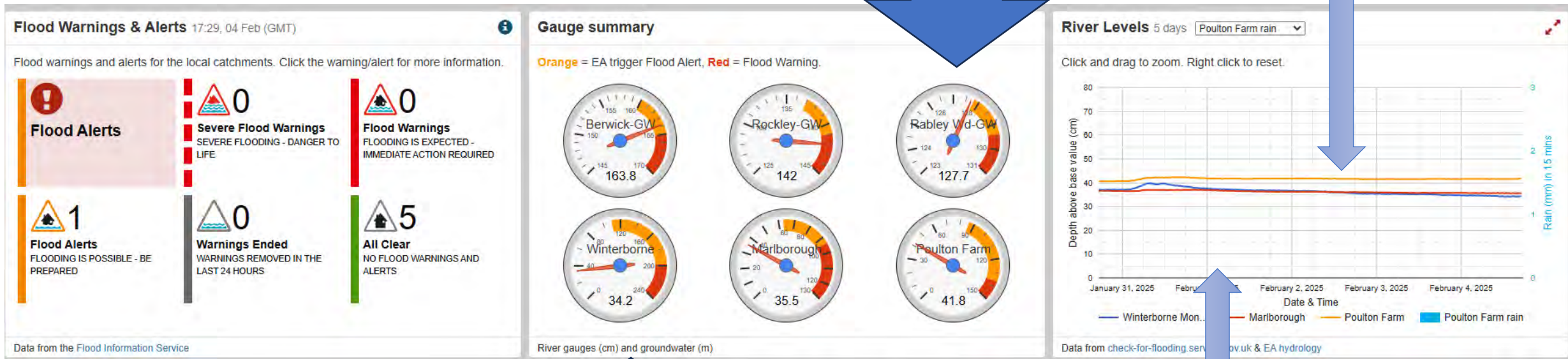
Data from the [Flood Forecasting Centre](#)

Flood dashboard – on a computer

Row 1 – lets you see what's going on now

Top dials = groundwater (m)

Graph of river levels at 3 sites



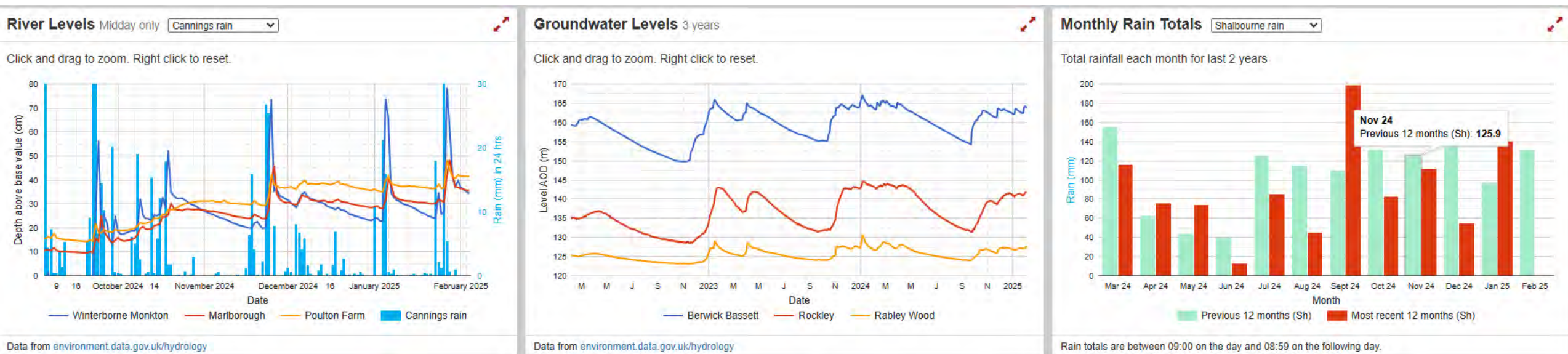
Screengrab 4 Feb 2025

bottom dials = river levels (cm)

Bar chart of recent rain (none in this week) (mm)

Flood dashboard

Row 2 – allows comparison with past months. Both rows give a choice of rainfall, groundwater and river level gauges.

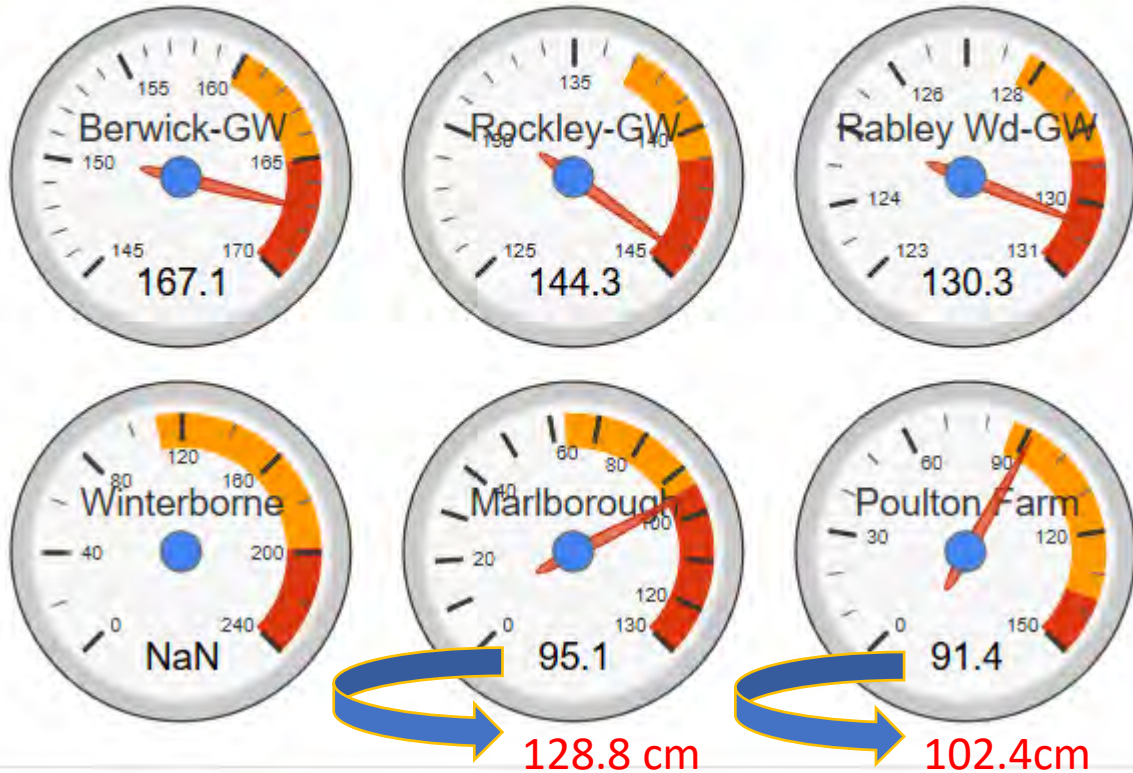


The dashboard works on mobile phones and tablets, but the graphs are displayed in columns rather than rows.

Flood dashboard

Gauge summary

Orange = EA trigger Flood Alert, **Red** = Flood Warning.



The gauges on Saturday January 6th 2024. The peak of the flood occurred on Friday.

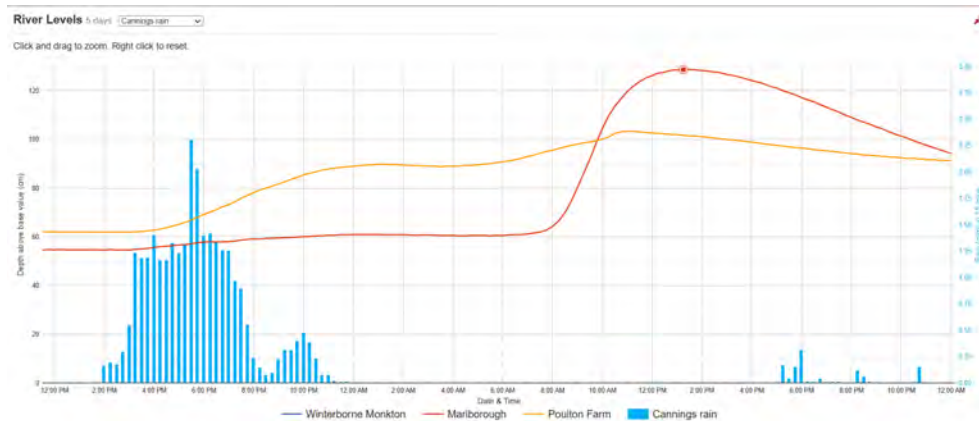
All 3 groundwater gauges are in the red. The river level gauge at Winterbourne was out of order.

The peak river levels for Marlborough on the Kennet and Poulton Farm on the Og are shown in red below the dials.

Note, the Og didn't break its banks.

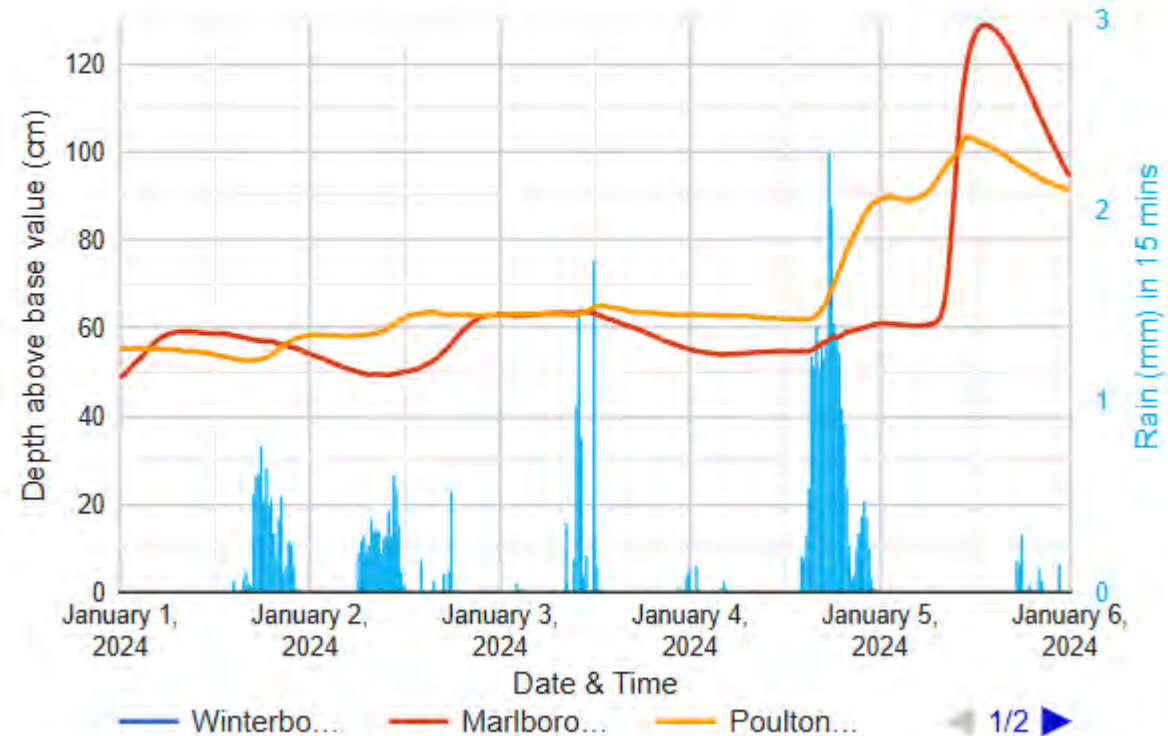
Flood dashboard

The river levels 5th January 2024, plotted with rain fall show the Og and Kennet responding to rain (left) and zoomed in (below).



River Levels 5 days

Click and drag to zoom. Right click to reset.



Data from check-for-flooding.service.gov.uk & EA hydrology

Keep up to date with water trends

Water situation report for Thames region.
Available on .gov website, updated monthly.

Research and analysis

Thames water situation: February 2025 summary

Updated 12 March 2025

Applies to England


[Publication for Northern Ireland](#)

[Publication for Scotland](#)

[Publication for Wales](#)

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1. Summary

Thames area received 62mm of rainfall through February, 130% of the long term average (LTA). River flows increased at only one of our key indicator sites in comparison with last month. Seven of our areal rainfall units were above normal, 4 sites were normal and the remaining 4 sites had notably high rainfall throughout the month. Groundwater levels declined at 6 of our indicator sites in February. Ampney Crucis, Fringford and Jackaments Bottom, all located in the Oolitic aquifer all decreased from the previous month's levels. The Lower Thames and Farmoor reservoirs both decreased during February to end the month below the average for the time of year. There were 35 fluvial flood alerts, and 2 flood warnings issued in Thames Area in February.

Keep up to date with water trends

Hydrological summary for the United Kingdom
Delivered as a monthly email.

Contact National Hydrological Monitoring
Programme nhmp@ceh.ac.uk to be added to
the mailing list.



Hydrological Summary for the United Kingdom

General

February provided some respite to the recent wet weather, with settled dry conditions dominating the month. All regions received below average rainfall except for those in southern England. Correspondingly, river flows were generally in the normal range to exceptionally low. Although soils dried slightly in February, they were still wetter than average in most regions. Groundwater levels were generally in the normal range to above normal, with exceptionally high levels across multiple aquifers in England and Wales. Reservoir stocks for England & Wales were 94% of capacity; Stocks at the majority of reservoirs rose relative to average (most only marginally), with substantial rises at Roadford (by 19%) and Silent Valley (14%). High pressure persisted for much of early March. There is a higher likelihood of below normal flows across north-east Britain over the next three months. In regions where winter rainfall was below average, the continuation of dry conditions may start to cause some concern for spring water resources.

Rainfall

A slow-moving cold front brought heavy rain on the 4th which caused surface water flooding and travel disruption around Glasgow. Thereafter a blocking high to the east of the UK led to cold but settled conditions. Despite this, occasional frontal incursions brought rainfall, which was wintry over high ground (e.g. 4cm at Fettercairn, Kincardineshire, on the 18th). The dry weather raised the wildfire risk and fires broke out in Wales on the 18/19th (e.g. at Cwn Mountain near Llandudno, Conwy). By the 19th, the high-pressure system started to weaken. Frontal systems brought heavy rainfall to the UK – in particular to western areas (e.g. on the 19th in Cumbria and the 21st in Northern Ireland in combination with strong winds which led to 1,500 customers losing power). The 23rd was the wettest and windiest day of the year so far (e.g. 111mm at White Barrow, Devon) and strong winds closed the M48 Severn Crossing and diverted planes at Edinburgh and Dublin airports. High pressure returned from the 26th to month-end. Despite some notable totals, total UK February rainfall was 76% of average. Northern England was especially dry (although with no notable rankings), with less than 60% of average recorded in Northumbrian, North West England and Yorkshire regions, and less than 70% of average in Highland, North East Scotland, Tweed and Severn Trent regions. Only Thames and Wessex regions registered above average February rainfall. Winter (December-February) rainfall was 90% of average at the national scale, with some areas of southern Scotland, Northern Ireland and northern England recording less than 70% of average with deficits in these areas extending back at least 12 months. In contrast, the Thames and Wessex regions received almost 125% of average rainfall over the last year.

River Flows

Following high flows at the end of January, recessions rapidly established across the UK in February. In north-east and south-east England, a peak in response to rainfall in the first week interrupted recessions, but in most catchments, recessions continued right through to the last week of February. New daily flow minima were established on the Bervie and Inver between the 13th and 20th. Catchments in south-west Scotland and Northern Ireland (21st), south Wales and south-west England (23rd), and southern England (24th) recorded new daily flow maxima. Responses to rainfall during this period were also evident in more slowly responding groundwater-dominated catchments in East Anglia. Following peaks, recessions recommenced to month-end, with many catchments ending February with flows at or below average. February monthly mean flows

were generally in the normal range with exceptionally low to below normal flows across northern areas. Flows in the far north of Scotland were around a third of average, with exceptionally low flows on the Inver, Helmsdale and Oykel all the second lowest February mean flows in records of at least 47 years. Below normal and notably low flows in northern England were less than half the average, with the fifth lowest February flows in the long record on English Tyne (from 1957). In contrast, flows in southern England were above average, with above normal and notably high flows in some catchments. Over the winter, low flows were less prevalent and extreme, with below normal flows constrained to southern Scotland, Northern Ireland (including notably low flows on the Annacloly) and northern England, whilst above normal and notably high flows were recorded in more catchments across central and southern England.

Soil Moisture and Groundwater

Despite the drier conditions, soils at COSMOS-UK sites were generally wetter than normal to notably wet in February, with soil wetness in the west in the normal range and drier than normal at Glenwherry and The Lizard. Groundwater levels in the Chalk varied spatially during February, although generally remained in the normal range to above normal. In the south and south-west, levels fluctuated or remained steady, while in the south-east, levels continued to rise, with those in Essex reaching notably high conditions. In Yorkshire, levels steadily decreased from above normal to the normal range. At Killyglen, levels receded following a late January recharge event, transitioning from the normal range to below normal. In the Jurassic Limestones at Ampney Crucis, levels fluctuated although decreased overall, while at New Red Lion, they steadily decreased. Both sites shifted to lower categories but remained above normal for February. Levels in the Magnesian Limestone were steady or slightly decreased although remained above normal. In the Carboniferous Limestone, levels typically rose, transitioning from below normal to the normal range at Panty Lladron following rainfall in late February. Levels in the Permo-Triassic Sandstones were generally steady, with conditions remaining above normal to exceptionally high. At Weir Farm, levels remained exceptionally high, reaching a new February maximum level. In the Upper Greensand at Lime Kiln Way, levels continued to rise, maintaining exceptionally high conditions. In the Fell Sandstone at Royalty Observatory, levels decreased slightly but remained within normal range. At Easter Lathrisk in the Devonian Sandstone, levels fell to notably low, following the drier than average conditions.

February 2025



National Hydrological
Monitoring Programme



UK Centre for
Ecology & Hydrology



British
Geological
Survey

Keep up to date with water trends

Hydrological outlook for the coming month.

Delivered by email



Period: From March 2025

Issued on 13.03.2025 using data to the end of February 2025

SUMMARY The outlook for March is for above normal flows in southeast England, which is likely to persist over the March-May period. In the northwest, normal to above normal flows are likely in March and for March – May. River flows in northeast Britain are likely to be below normal in March and normal to below normal for March-May. Normal to above normal groundwater levels are likely to persist through the March-May period but parts of south Wales and Scotland could see below normal levels in March.

Rainfall:

February rainfall for the UK was below average. Some areas of northeast Scotland and northwest England recorded less than half of the February average. In southeast and southwest England, rainfall was average or above average. The forecast for March (issued by the Met Office on 24.02.2025) indicates an increased chance of wet conditions for northern and western parts of the UK. Unsettled conditions are possible in late March, but confidence remains low. The March-May forecast suggests a slightly higher than normal chance of being drier than average, particularly across southern England.

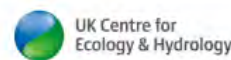
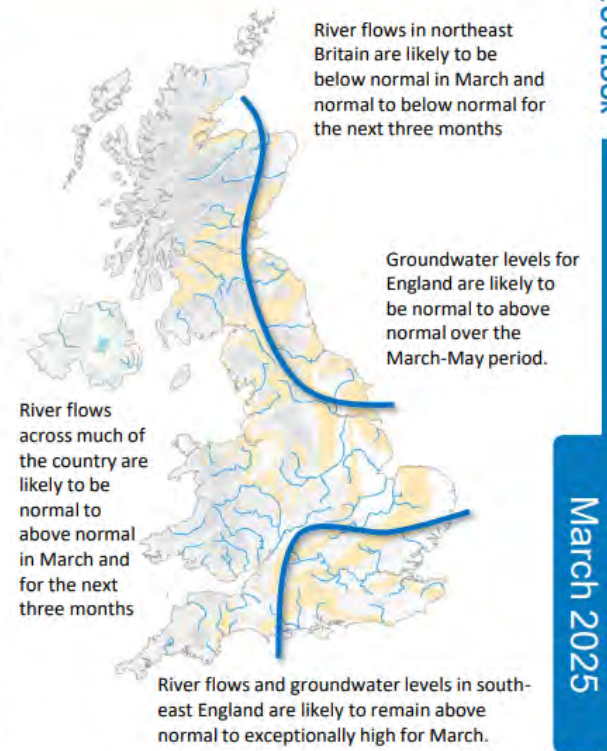
River flows:

River flows in February were below normal in northern Britain, notably or exceptionally so in some cases. Flows for England were in the normal range with some notably to exceptionally high flows in groundwater-dominated catchments across southern England. The outlook suggests above normal to high flows in these catchments are likely to persist in March and for the next three months.. Elsewhere, normal to above normal flows for March are likely for the northwest but below normal flows are more likely for northeast Britain. The March-May outlook shows a similar geographical pattern, with mostly normal to above normal flows across the UK but a slightly higher likelihood of below normal river flows in northeast England.

Groundwater:

Groundwater levels in February were above normal across much of the Chalk aquifer of central and southern England, and mostly normal to above normal elsewhere. Notably low levels were registered at some sites in southern Scotland and Northern Ireland. The outlook for March is for above normal to notably high levels to persist in southern England, with the possibility of below normal levels in parts of south Wales and Scotland. Over the three-month period (March-May), groundwater levels are likely to be normal to above normal, particularly in the Chalk aquifer in southern England.

The UK Hydrological Outlook provides an outlook for the water situation for the United Kingdom over the next three months and beyond. For guidance on how to interpret the outlook, a wider range of information, and a full description of underpinning methods, please visit the website: www.hydrooutuk.net



Beaver field signs

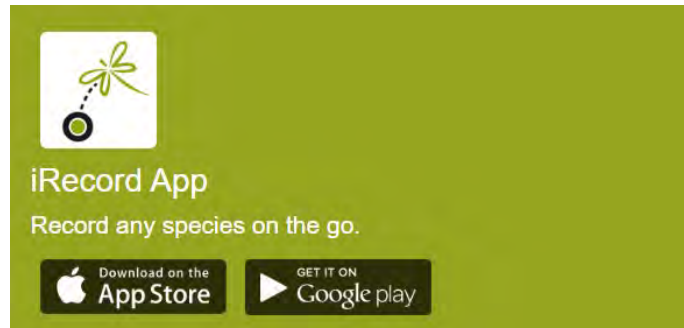
Please report to

1. ARK (email anna@riverkennet.org or call 01672 512700)

2. Mammal mapper app



3. iRecord app





THANK YOU!