

GDPR



- Thank you for attending this session. Any details you have provided us with today may be securely shared between the Environment Agency and Local Authority in support of your community volunteer role.
- If you have any questions regarding GDPR please email **floodwessex@environment-agency.gov.uk**

Housekeeping



Environment
Agency

- Please use the **chat** throughout the sessions to ask questions or add comments
- Please keep yourself on **mute when not talking**
- Please use the hand up button, when you want to ask a question.
- Please be respectful of others' thoughts and opinions.
- We will have an opportunity for questions at the end.



Chat



Mic

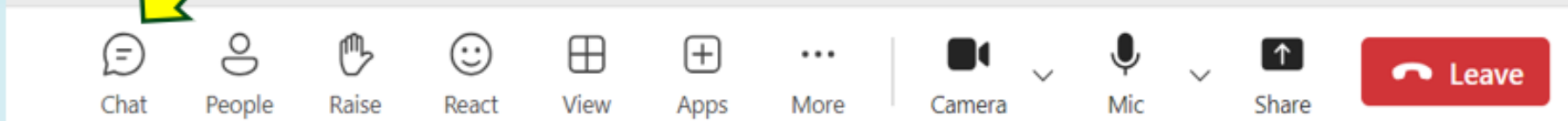


Raise

ACTION



- Please put your, **name** and **community** in the chat.
- To open the chat function – click on the icon below.
You will see it at the top of your screen:



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Chat



Mic



Raise



Flash Flooding

Online Lunch and Learn
July 17, 2025

Emma Giffard
Flood Resilience Engagement Advisor

Climate Change & Extreme Events



How does Climate Change affect rainfall intensity globally?

Natural Climate
(without human influence)



Warm, moist air
rises to form clouds...



... and then falls as rain.

Future Climate
(with warmer air)



For every 1°C more that
the air warms, it can hold
about 7% more water...



...creating heavier rain.

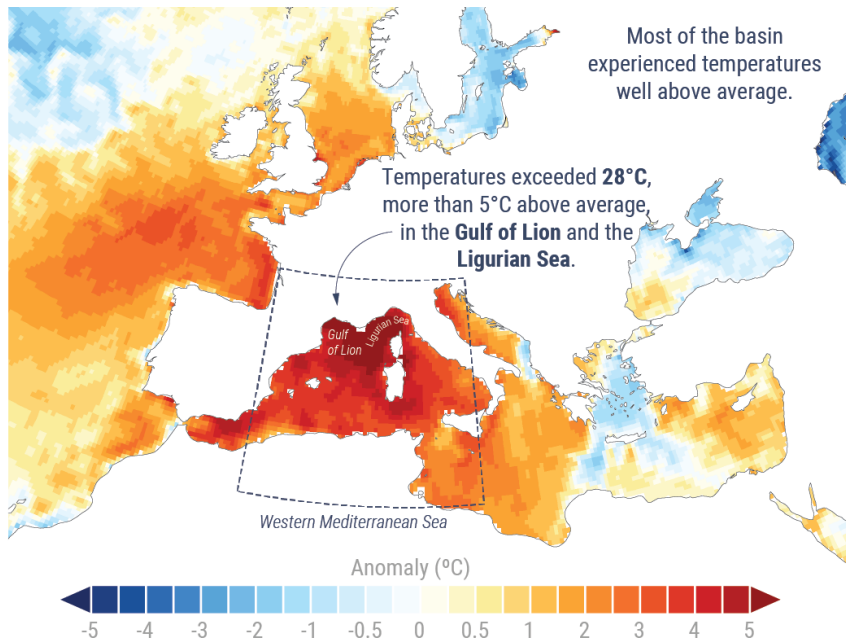
This could lead to a greater risk of
flash flooding.

Increased ocean temperatures lead to higher rainfall extremes

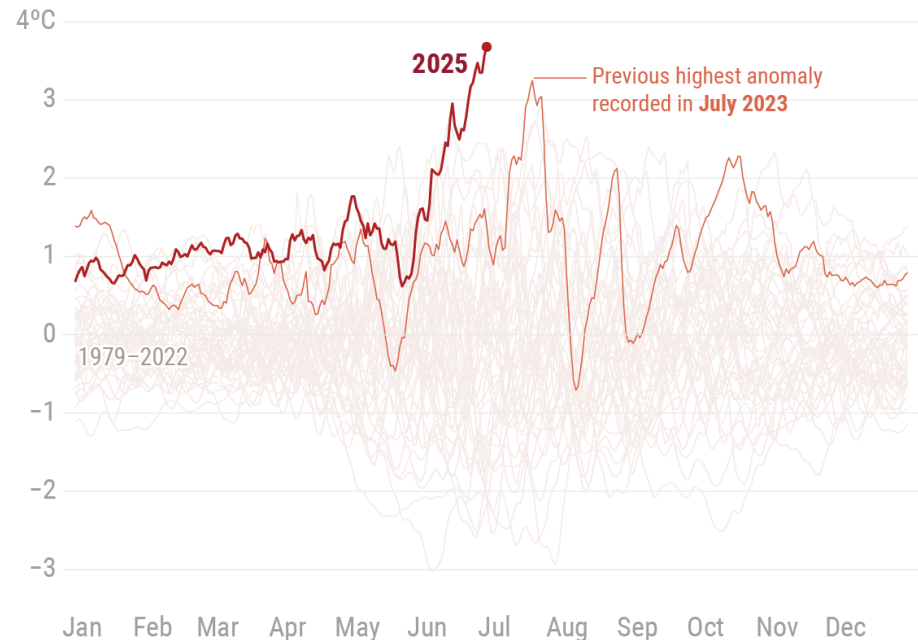
Sea surface temperature anomaly in the western Mediterranean Sea

Data: ERA5 • Reference period: 1991–2020 • Credit: C3S/ECMWF

Anomalies on 30 June 2025



Daily anomalies since 1979



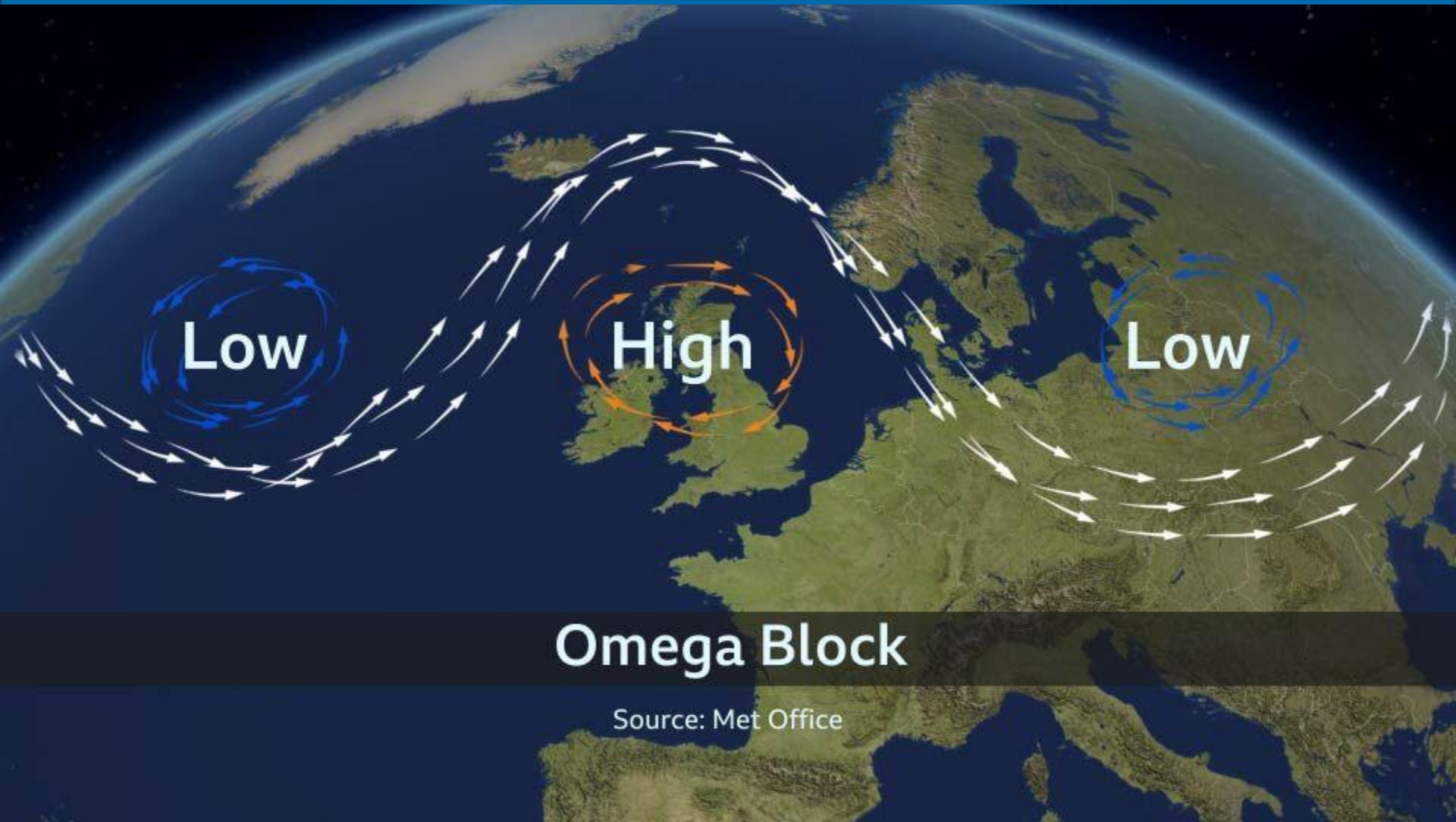
PROGRAMME OF
THE EUROPEAN UNION



IMPLEMENTED BY



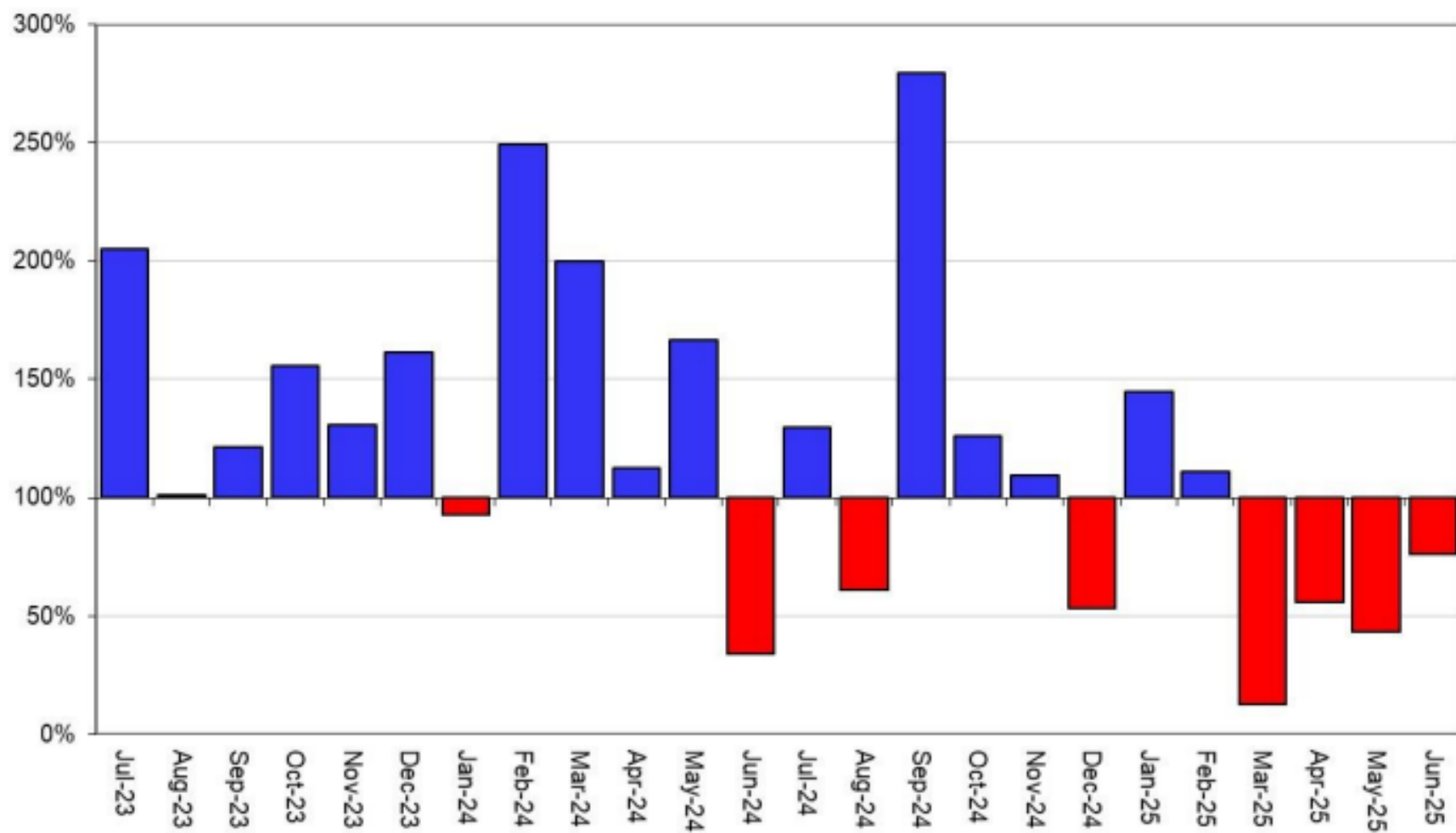
Jet Stream Blocking



Above average rainfall

Below average rainfall

1-Month Period for Wessex

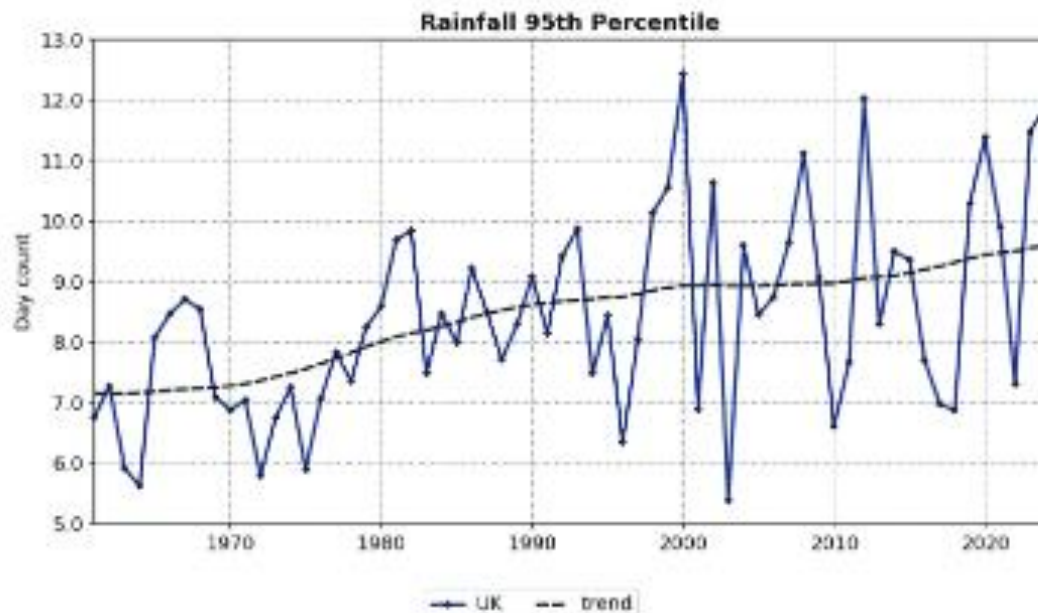


Met Office State of the UK Climate Report

(a) Met Office

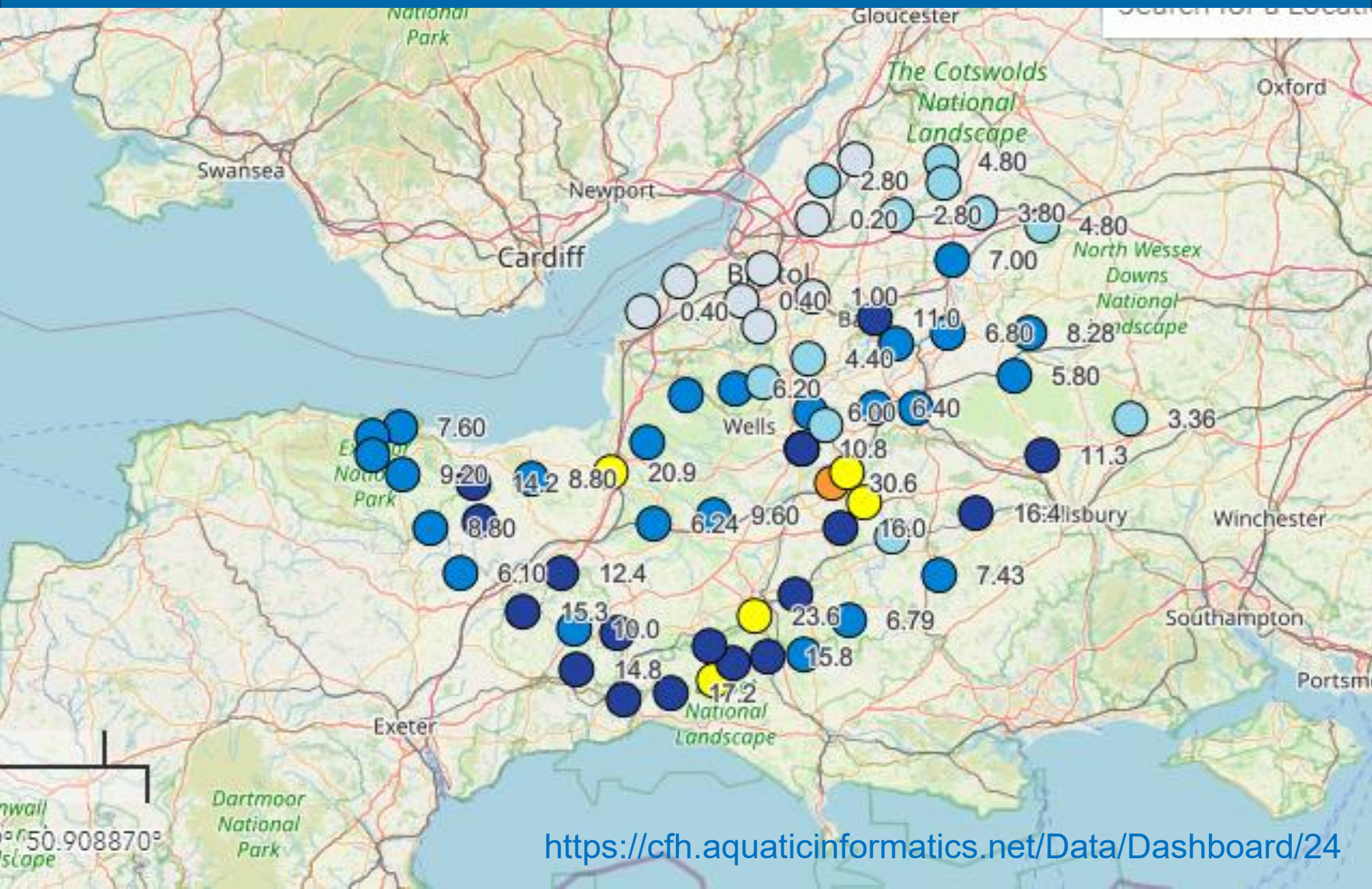
Source: HadUK-Grid 13/03/2025 12:36

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	1961-1990	1991-2020	2015-2024	2024
95% (days)	7.7	8.9	9.3	11.9
99% (days)	1.6	1.9	2.0	2.8

Rainfall Totals – 9 May 2023



What is flash flooding?

- ➡ Intense rainfall
- ➡ Occurs suddenly, little warning
- ➡ Deep, fast flowing water
- ➡ Dangerous - **Severe risk to life**
- ➡ Very destructive
- ➡ Rare, but it's important to prepare

Flash Flood Risk: Thunderstorms

Severe & localised
Thunder & lightning

Heavy rain or hail

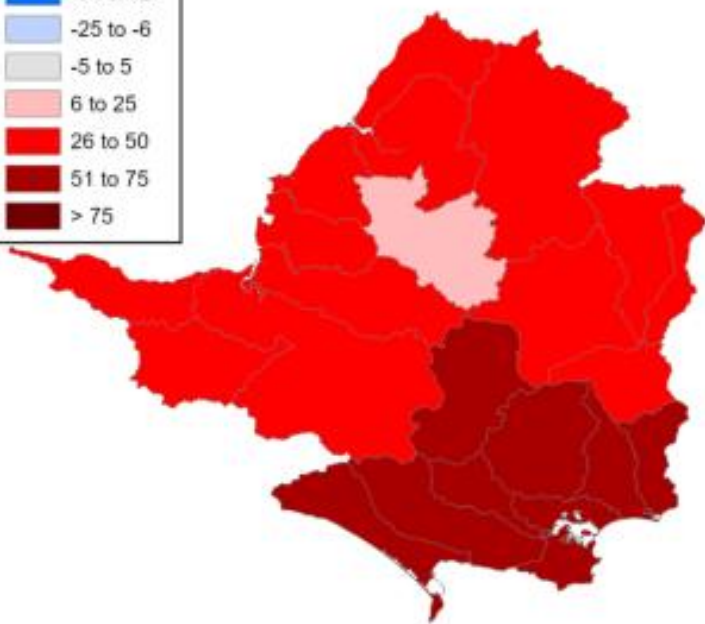
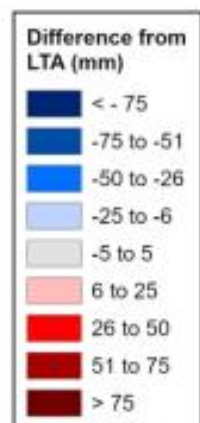
Strong winds

Sudden temperature
changes

Can occur all year round
but most common during
summer



Ground Conditions



Dry, cracked soils repel water rather than letting it soak in as wet soil would. Rain pools on the surface and runoff rates increase – leading to a greater risk of flash flooding.

Soil Moisture Deficit as % of Long Term Average, 30 June 2025

Source: [Wessex Area Water Situation Report June 2025](#)

Summer Flood Risks

People entering
floodwater

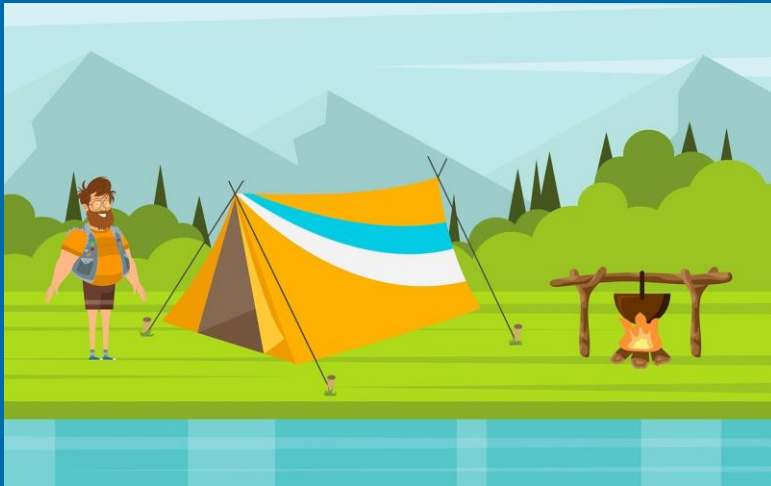
Tourists and people
unfamiliar with the area

Lack of awareness of
flood risk



Vulnerable Sites

Campsites & tents
Residential Park Homes
Caravans



People in single-storey dwellings, basements, boats, or wooden structures

Rapid Response Catchments

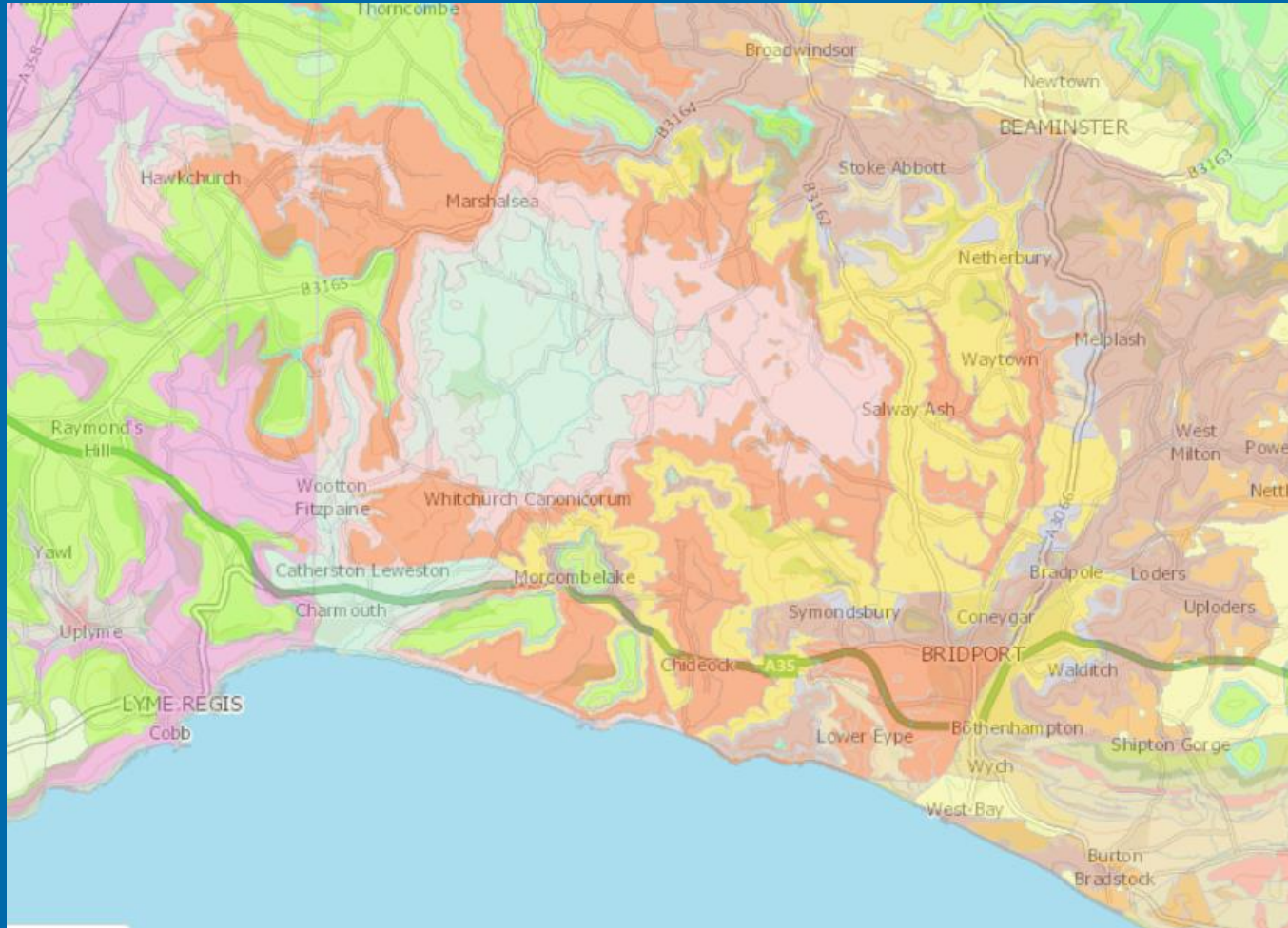
Some characteristics make a location more susceptible and vulnerable to flash flooding



Narrow, steep sided valleys



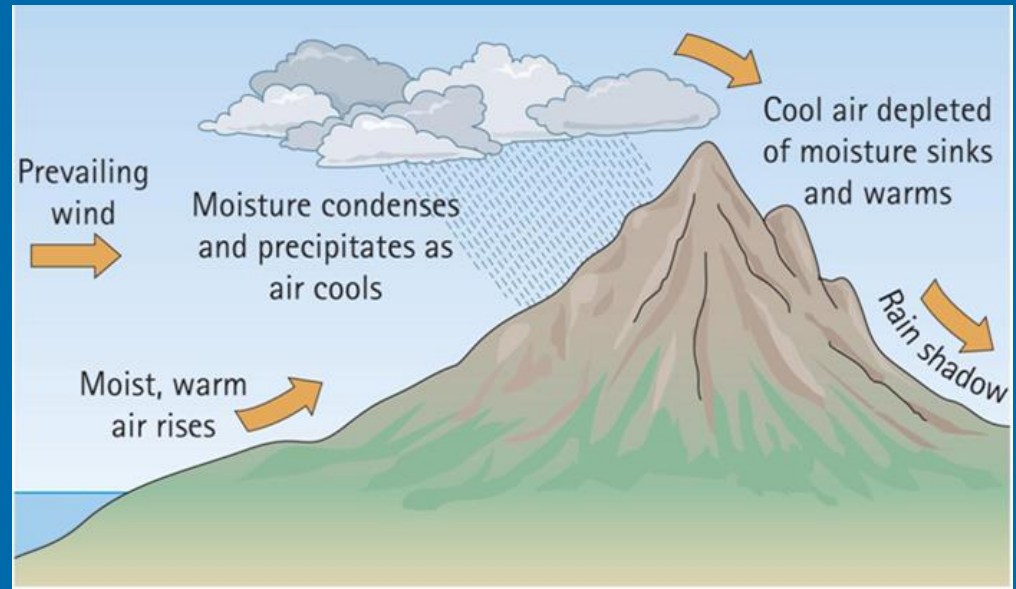
Impermeable geology



Soil that
cannot
absorb
water
easily,
like clay
and rock

Areas with intense rainfall

Orographic enhancement – more rain on the windward side of the hill



Obstructions across watercourse & human alterations

- Culverts
- Footbridges
- Driveways
- Canalised watercourses



Land use

Areas with few trees
or vegetation

Intensive agriculture

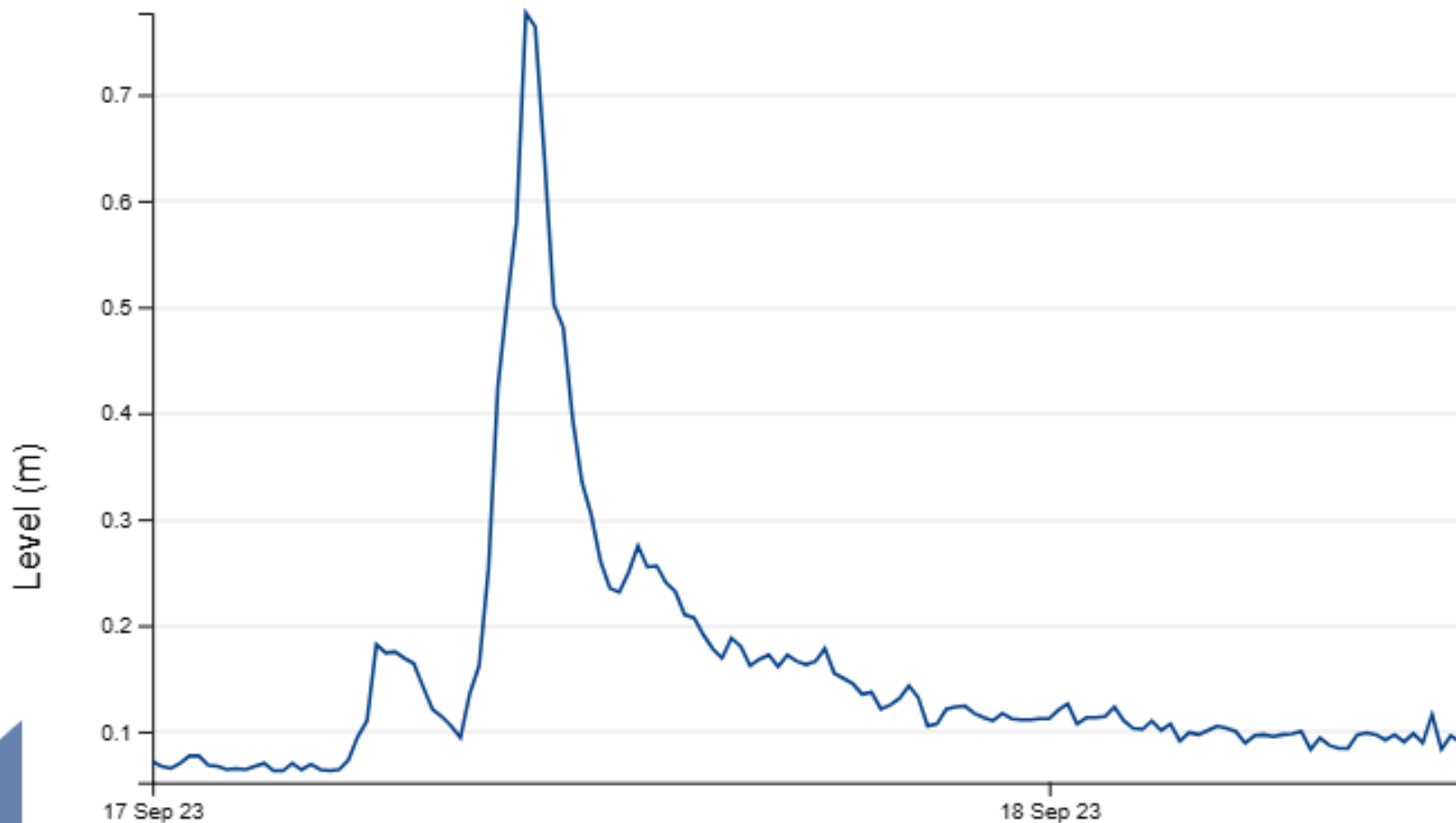
Areas that contain
mines



Urban environments

- Highways drains may quickly become blinded by debris
- Road gullies typically designed for 1:1 to 1:5 rainfall event – extreme events will cause surface water flooding
- 26% increase in hard surfacing of London's gardens between 1999 and 2007





Danger: Driving into Flood Water

Vehicle related
deaths leading cause
of flood fatalities

Just 30cm of fast
flowing water can
move a car



Don't Become a Casualty that needs rescuing



Danger: Debris in the water



Danger: Damage to buildings and infrastructure



Danger: Contaminants



Most flash floods happen in places where there has not been a big flood in recent memory

15 August 1952 - Lynmouth



230mm of rain,
with 150mm in
just a few hours

West Lyn River
rose 60 feet
above normal
level

34 people killed

Similar floods in
1607 and 1796

Wey Valley 18 July 1955

- 279mm in 24hr period – still stands as highest 24hr UK rainfall record
- Severe thunderstorms
- Rapid surface water run-off
- River reached 'bankfull' quickly
- Bridge obstruction caused a 'temporary dam'
- Communities located in narrow valley next to river



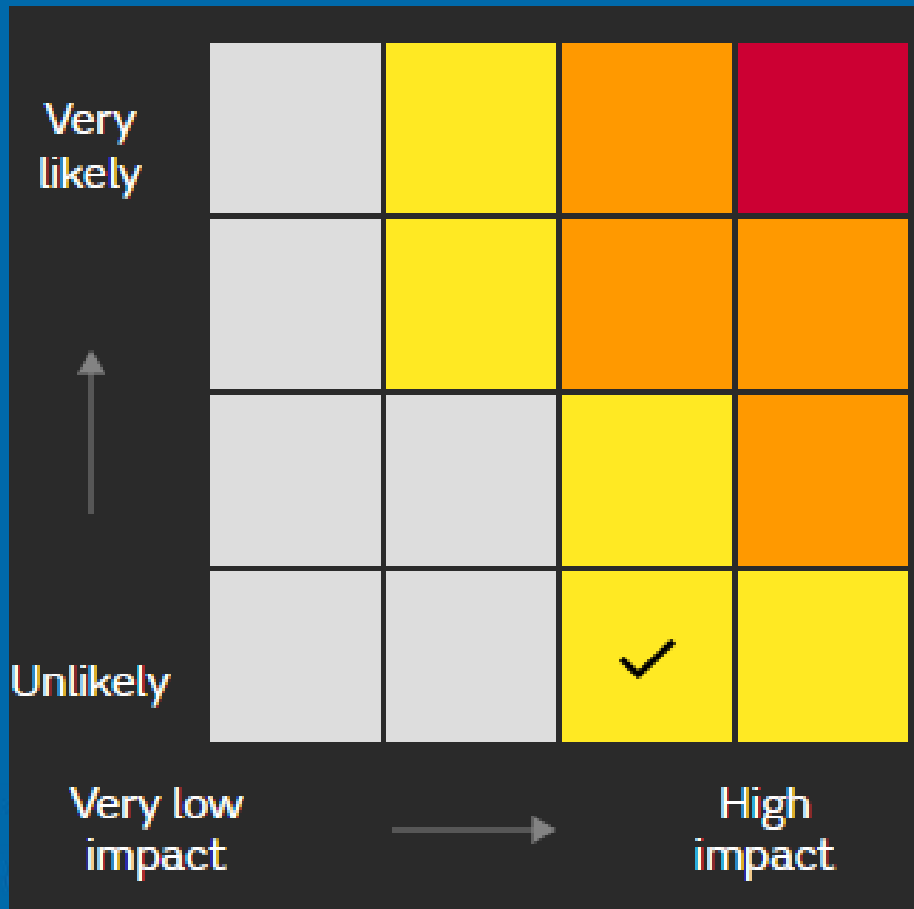
Chew Valley – July 10 1968

- 172mm rainfall in 18 hours
- Railway viaduct damaged so badly it never reopened
- Debris built up behind bridges creating dams
- A bridge collapse on the Winford Brook created a domino effect, with a surge of water then knocking out bridges downstream



Weather Warnings

Understand what weather warnings mean

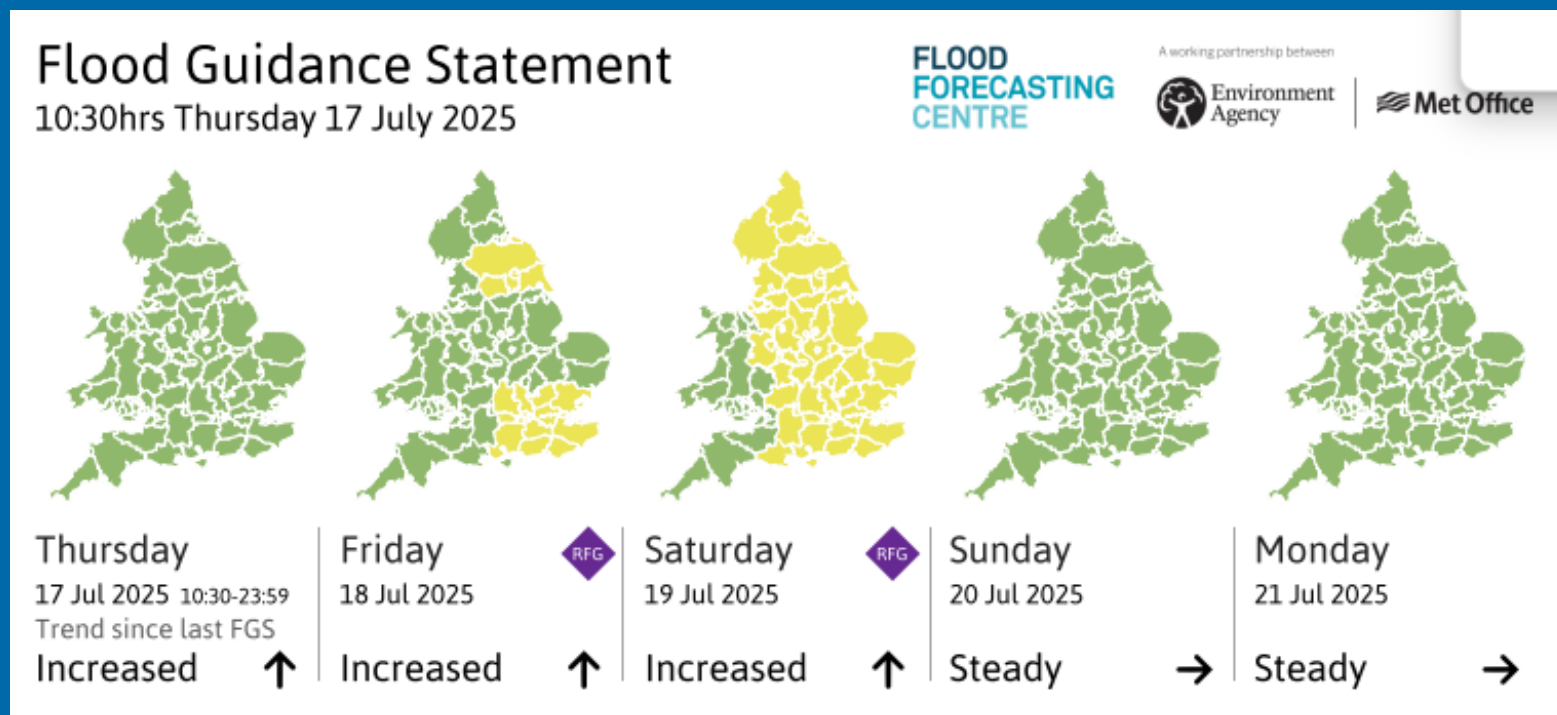


Met Office defends Storm Bert weather warning



Warnings – Rapid Flood Guidance

Service for emergency responders – community emergency volunteers can sign up



Forecasting can only do so much

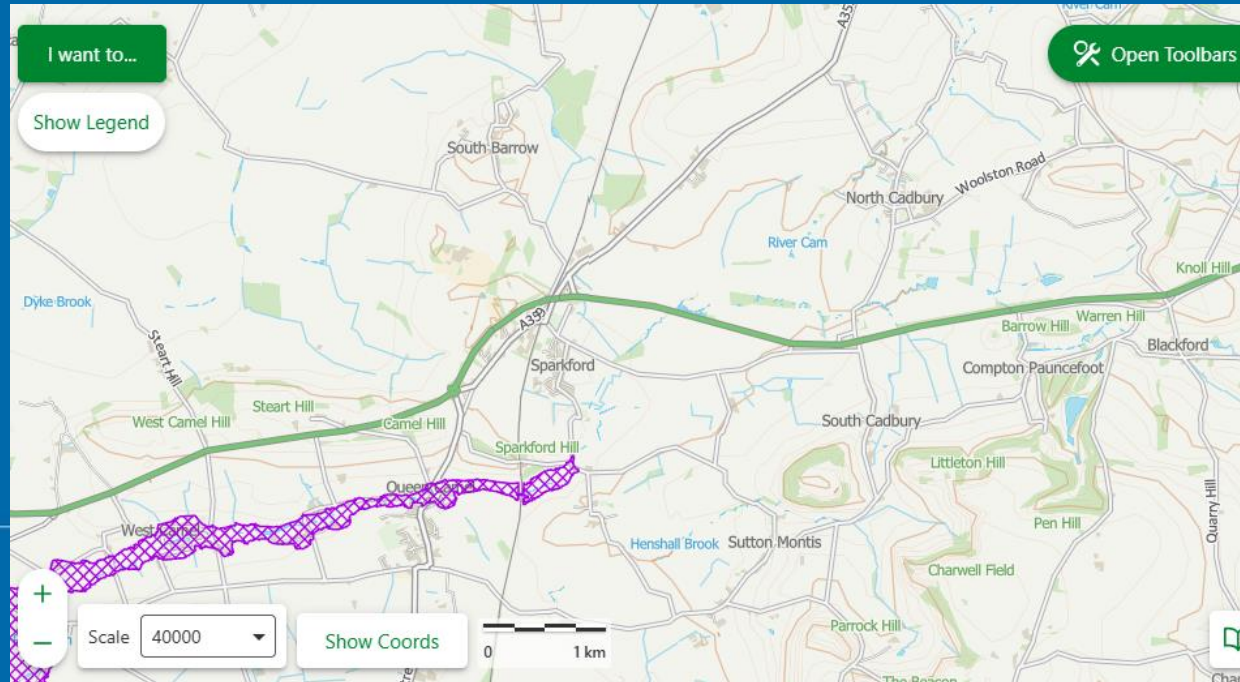
Although forecasting now accurately predicts when storms will occur, it cannot precisely predict where they will hit. This is similar to heating water on a hob. Predicting when it boils is possible, but where each bubble forms is far harder.

Rob Thompson, Postdoctoral Research Scientist in Meteorology at the University of Reading.

Flood Warnings

Make sure you are signed up to Flood Warnings

Be aware Flash Flooding can occur in areas not covered by the Flood Warning Service



Flash Flooding may happen too fast for any Warnings to go out

Deleted tweets, missed warnings and calls for the 'hangman': the bitter political fallout from Spain's floods

The region's president responds to criticisms that he was slow to act by attacking the prime minister



Government Emergency Alerts

Used in Cumbria
flooding

Used when Met Office
issued Red Severe
Weather Warnings

Flash floods could occur
too quickly for the
system to be activated

Reports of flash flooding
may not be
substantiated in time



The 'Last Mile': Warnings need to be heard to be heeded



Warnings might not be delivered:

Phone switched off at night

Patchy phone signal

Visitors to the area

Warnings need to be heeded to be acted on

Warnings balance uncertainty and risk

False alarms undermine the credibility of the early warning system with the public

People may not understand the significance of warnings



What should you do in a flash flood?

To make yourself safer during flash flooding:

- ➡ if it is safe, move to higher ground or the upper floor of a building
- ➡ do not walk or drive through the flood water
- ➡ do what the emergency services tell you
- ➡ call 999 if you are trapped or need emergency help
- ➡ Shallow flood water (around 15cm or 6 inches) that does not look dangerous can knock a person over or conceal hazards.
- ➡ Do not use flimsy or temporary structures – like a tent or a caravan – for shelter during flash flooding.

What can you do?

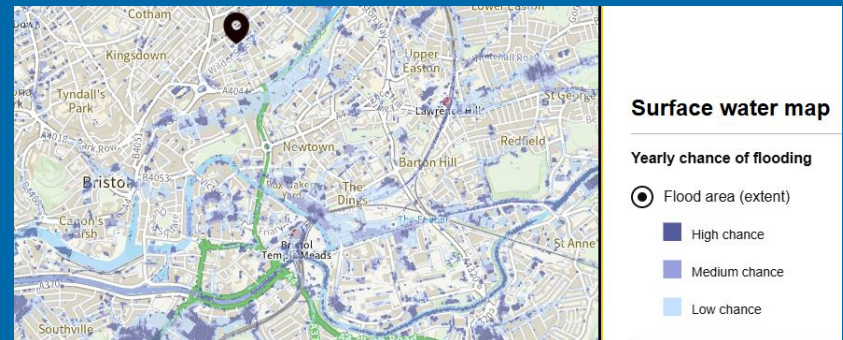
Raise the awareness of flash flooding risk in your community and actions to take



What can you do to prepare?

Check your Flood Risk

Make sure you are signed up to receive the right flood alerts and warnings



www.gov.uk/flood

What can you do to prepare?

Develop a community flood plan

Write a personal flood plan

Personal flood plan

Name:

Environment Agency

Are you signed up to receive flood warnings? ☐ If not call Floodline on 0345 988 1188 to see if your area receives free flood warnings.

Let us know when you've completed your flood plan by calling Floodline on 0345 988 1188. This will help us learn more about how people are preparing for flooding.

General contact list	Company name	Contact name	Telephone
Floodline	Environment Agency		0345 988 1188
Electricity provider			
Gas provider			
Water company			
Telephone provider			
Insurance company and policy number			
Local council			
Local radio station			
Traffic/weather info			

Key locations

Service cut-off	Description of location
Electricity	
Gas	
Water	

Who can help/who can you help?

Relationship	Name	Contact details	How can they/you help?
Relative			
Friend or neighbour			

Be prepared for flooding. Act now

community flood plan

Environment Agency

Parishes and communities working together

Community or group: Address:

Floodline quickcall number: Which Environment Agency flood warnings are you registered to receive?

Local flood warning trigger
(e.g. when water reaches certain levels of the bridge, school etc.)

Date:

Be prepared for flooding. Act now

Version 1.0, issued 2 November 2002. For more information regarding flood plans contact your local Environment Agency Flood Protection Management Team. Contact details of your local Area Office can be found at www.environmentagency.gov.uk

What can you do to prepare?

Property flood resilience



Dates for your diary

Bradford-on-Avon Flood Drop-in with Flood Mary & The Flood Pod, Monday 21 July,
Holy Trinity Church, Bradford-on-Avon, 2-6.30pm

Wiltshire Flood Resilience Drop-In, Wednesday 6th August, Marlborough Town Hall

Wiltshire Flood Resilience Drop-In, Tuesday 19th August
Salisbury Guildhall

Flood Mary & The Flood Pod, Thursday 25th September
Archie Gooch Pavillion, Ilminster

Somerset Prepared Annual Resilience Day, 15th October
Taunton Racecourse

To register your interest and for more details email: floodwessex@environment-agency.gov.uk

Future lunch and learn session topics



- **Q&A Session** – Thurs, 21 August (online)
- **Introduction to the Flood Warden Role** – Thurs, 18 September (online)
- **Flood risk management** (how it works, how partners work together, who does what) – Thurs, 23 October (online)
- **Local Resilience Forums (LRF) and how they work** – Thurs, 27 November (online)

Your Environment Agency Flood Resilience Team



How we help flood wardens:

- Assist with flood plans/action cards
- Guidance and advice
- Flood warden workshops and flood plan exercises
- Quarterly Newsletters
- Resilience Workshops for flood wardens and community emergency volunteers

floodwessex@environment-agency.gov.uk

Supporting Materials



- Register online – free of charge - to access the 'Members area' for handbooks and the 'Learning Space' for online courses



www.communitiesprepared.org.uk

Any Questions?

