

Learning from the Somerset Thunderstorm of 22 June 2026: Hazards, Preparedness and Community Resilience

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Workshop Aims

- Use the severe thunderstorm of 22 June 2026 as a case study to explore thunderstorm hazards and impacts
- Consider the challenges of short-warning severe weather and multi-hazard events
- Discuss how combining local real-time weather and river observations could enhance Somerset's preparedness and resilience

Thunderstorms: A Significant Community Resilience Challenge

They can produce:

- Flash flooding and landslides
- Lightning
- Large hail
- Strong winds
- Infrastructure failures
- Transport disruption
- Power outages
- Property damage
- Wildfire ignition
- Asthma attacks

Somerset is particularly vulnerable to **flash flooding**:

- Small but “flashy” (fast response) river catchments from steep hillsides in our region
- Climatology of strong summer thunderstorms and frequent winter heavy showers off the sea
- Both can occur at night, complicating response

22 June 2026: A Multi-Hazard Day

22 June 2026 was already under an extreme heat warning

Weather situation

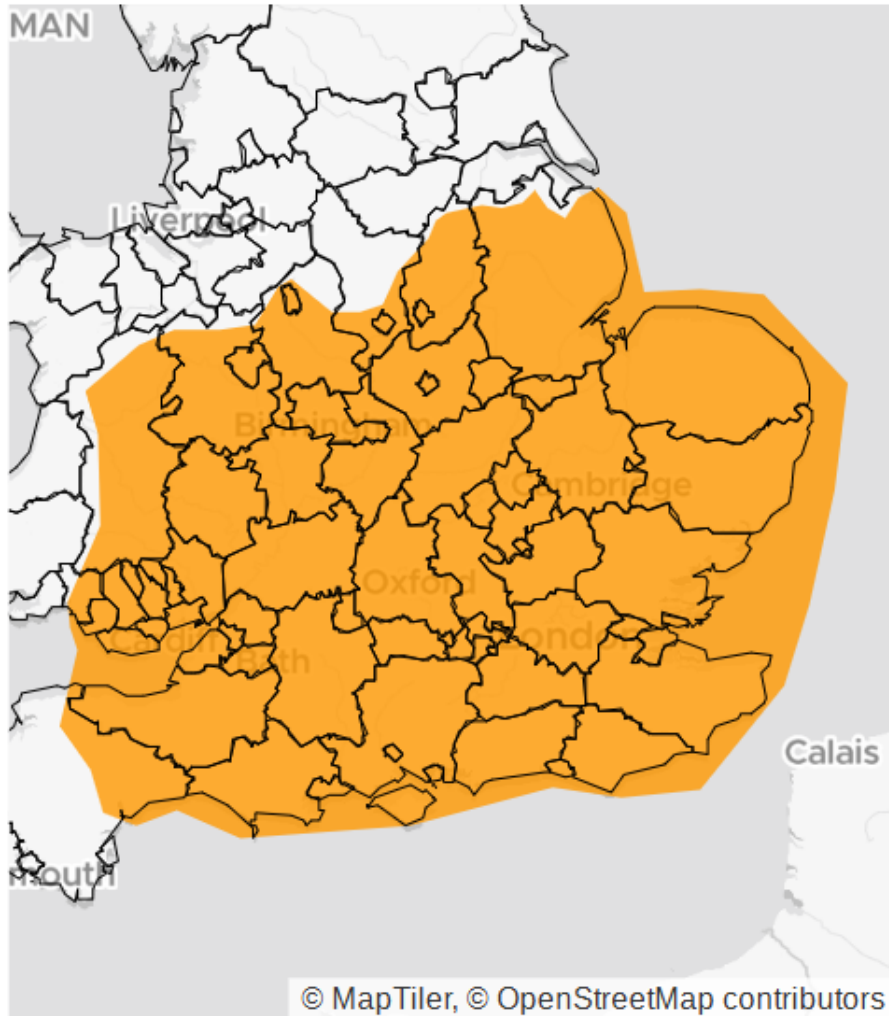
- Somerset was under a Met Office Amber Extreme Heat Warning (Red from the following day)
- Temperatures were exceptionally high (32°C in Wells one hour before flooding)
- Community attention was focused on heat-related impacts
- Thunderstorms were mentioned by the Met Office over the preceding week, but with low emphasis e.g. "chance of thundery showers for some" on the morning's news
- Later that day, an exceptionally severe thunderstorm developed
- Yellow warning of "thunderstorm affecting South West England" issued *during* event

Communities prepared for one weather threat but experienced two



**Amber warning
Extreme Heat**

**Between
01:00 Mon 22 Jun 2026 and 23:59 Tue 23 Jun 2026**



A developing hot spell through Monday and Tuesday will likely lead to widespread impacts on people and infrastructure.

What to expect

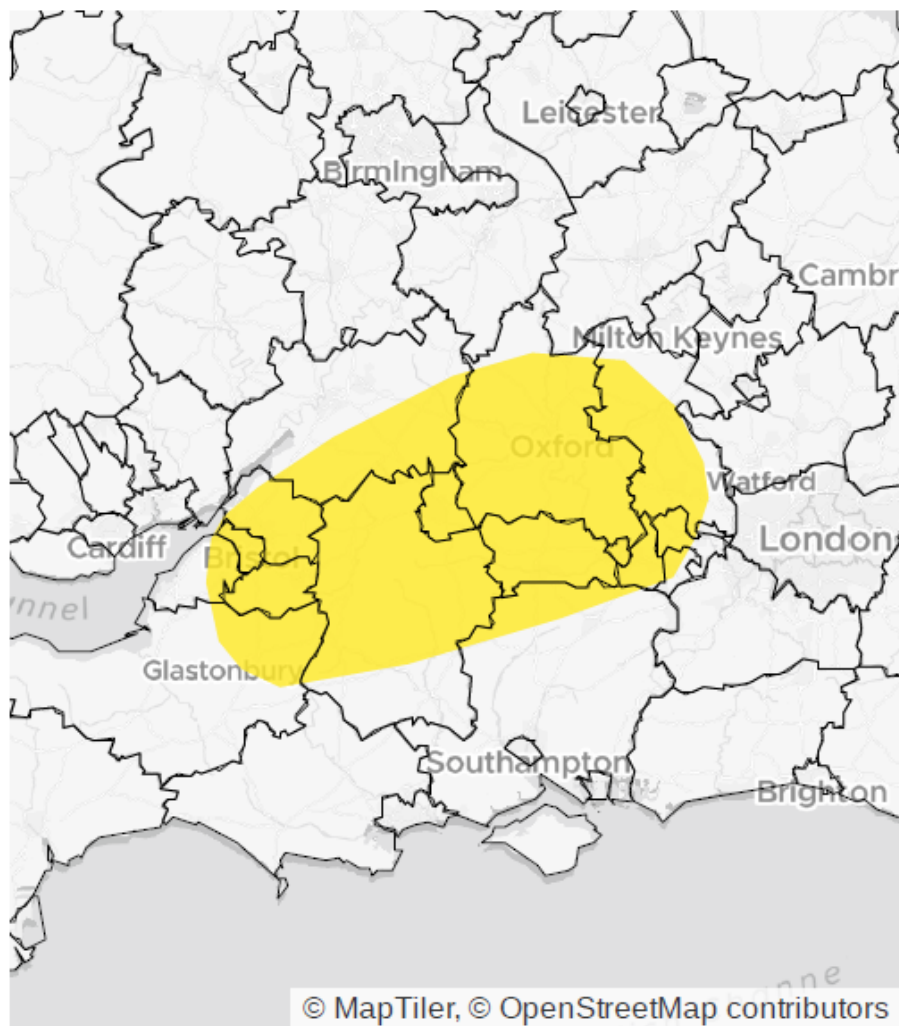
- More people are likely to visit coastal areas, lakes and rivers leading to an increased risk of water safety incidents
- Adverse health effects are likely to be experienced by those vulnerable to extreme heat
- The wider population are likely to experience some adverse health effects including sunburn or heat exhaustion (dehydration, nausea, fatigue) and other heat related illnesses
- Some delays to road, rail and air travel are



**Yellow warning
Thunderstorm**

Between

17:21 Mon 22 Jun 2026 and 21:00 Mon 22 Jun 2026



A cluster of thunderstorms may bring some short-lived disruption this evening

What to expect

- Possibly some damage to a few buildings and structures from lightning strikes or hail
- There is a good chance driving conditions will be affected by spray, standing water and/or hail, leading to longer journey times by car and bus
- Delays to train services are possible
- Some short term loss of power and other services is likely
- Some flooding of a few homes and businesses is possible

Significant Impacts (reported in news)

Flash Floods and Power Outages

2

wellsvoice

July 2026

NEWS

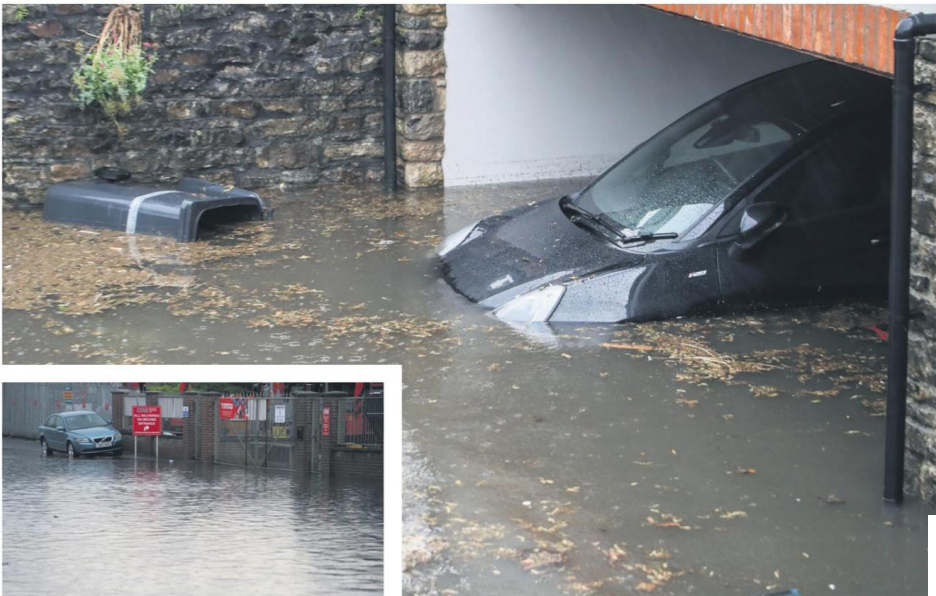
Heavy rain sparks flash floods across Wells

AT AROUND 5.30pm on Monday, 22nd June, after a hot day with plenty of sunshine, the weather changed dramatically and heavy rain, thunder, lightning and flash flooding hit Somerset – including Glastonbury, Wells and Shepton Mallet.

Dramatic videos on social media showed shops and streets rocked by heavy winds and torrential rain – over 40mm in some areas, with over 18,000 lightning strikes across the county.

Both Tesco and the Spar shop on Tucker Street had to temporarily close due to flood damage, and a number of shops towards the bottom of the High Street also reported some flood damage.

Hundreds of homes were left without power – some until much later in the day – and a number of schools were closed on Tuesday, including



taken at the bottom of Southover. People were shocked at how quickly the water level rose

583 Properties with no power in Glastonbury and Shepton Mallet



Bizarre Scenes Unfold in Bath as Flash Floods Inundate Streets Amid Heatwave (Somerset Daily)



WATCH - The moment flash-flooding sweeps Somerset high street as shops shut

County Gazette

A Glastonbury shop owner has shared CCTV of the flash **flooding** yesterday, June 22, as traders say "the water ran like a river" down the street.

The sudden downpour in the afternoon of Monday, June 22, wreaked havoc across the Somerset town, with several shops closing and dramatic footage shared on social media.

Glastonbury photographer Michelle Cowbourne, who owns Visions of Somerset shop on Market Place, said several businesses on the street have been "badly affected".

Account from a resident of Tor Street, Wells:

...” The flooding was very sudden, and floodwater came into my house and destroyed the carpets. Cars also flooded on the street and were carried by floodwater. My elderly neighbour was trapped when a wardrobe fell blocking her front door, with floodwater inside. She was rescued by me and her other neighbours”...

Lightning Causes House Fire and Airport Disruption

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Airport closed and planes grounded after thunderstorm



A thunderstorm has caused issues with the air traffic control system

22 June 2026

Bristol Airport is closed after a thunderstorm caused damage to air traffic control systems.

All flights are currently grounded due to an earlier thunderstorm, according to traffic monitoring site Inrix.

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Extreme weather causes blaze and shuts airport



A fire caused by lightning in Emersons Green, Bristol, on Monday

Joe Skirkowski
West of England
23 June 2026

Extreme weather has caused extensive damage to infrastructure across the West of England and led to the closure of dozens of schools and an airport.

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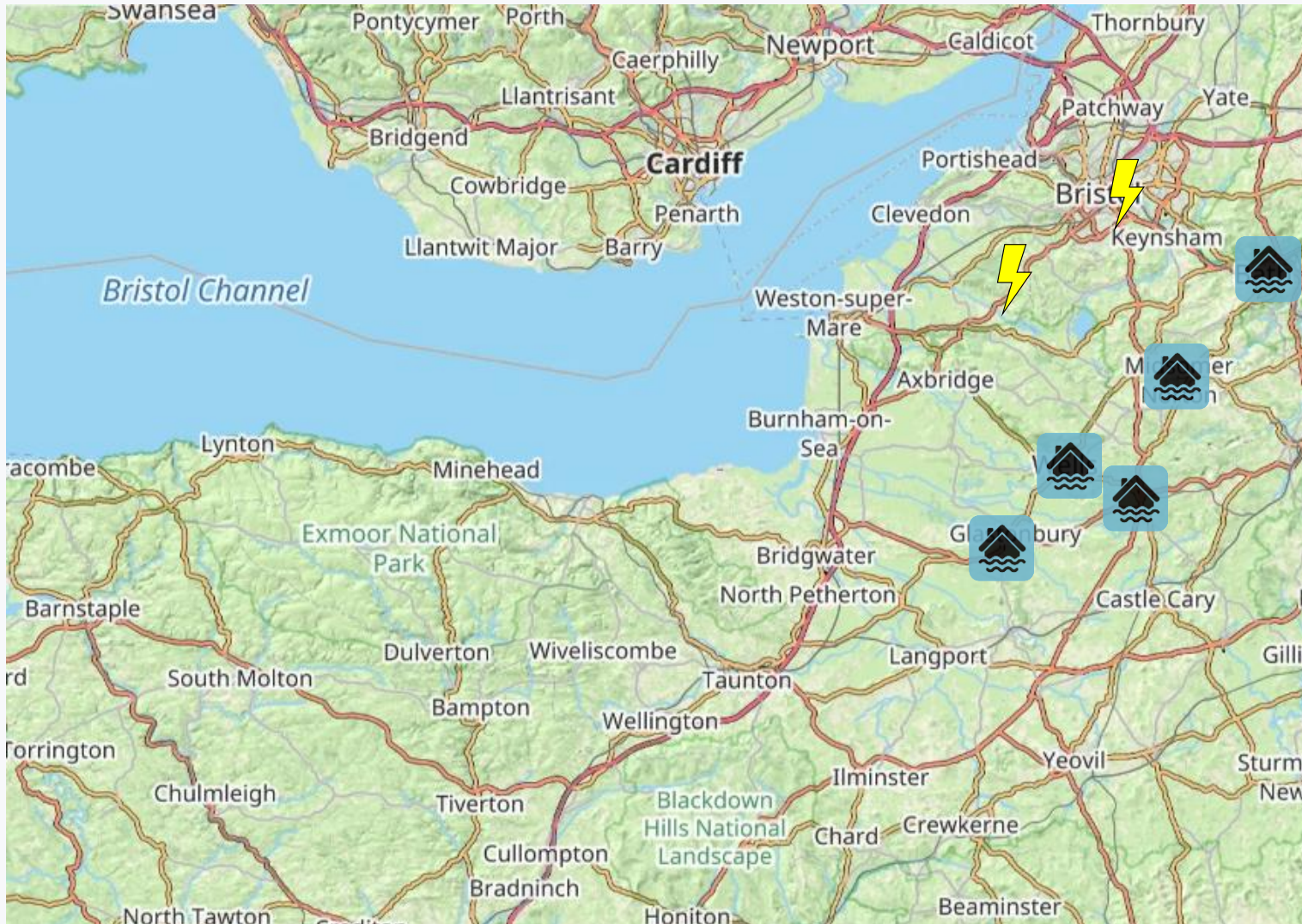
Storms and school disruption amid rare red weather warnings



Extremely high temperatures were followed by thunderstorms and flash floods in the West Country

Impact of extreme heat already felt in Somerset before storm arrives

Significant Impacts (reported in news)



- Most severe flooding in areas of highest rainfall totals (small, flashy catchments). Surface water runoff was the key factor
- Wells, Shepton Mallet, Glastonbury, Street, Midsomer Norton and Bath particularly affected by flooding
- Bristol airport and a Bristol house damaged by lightning

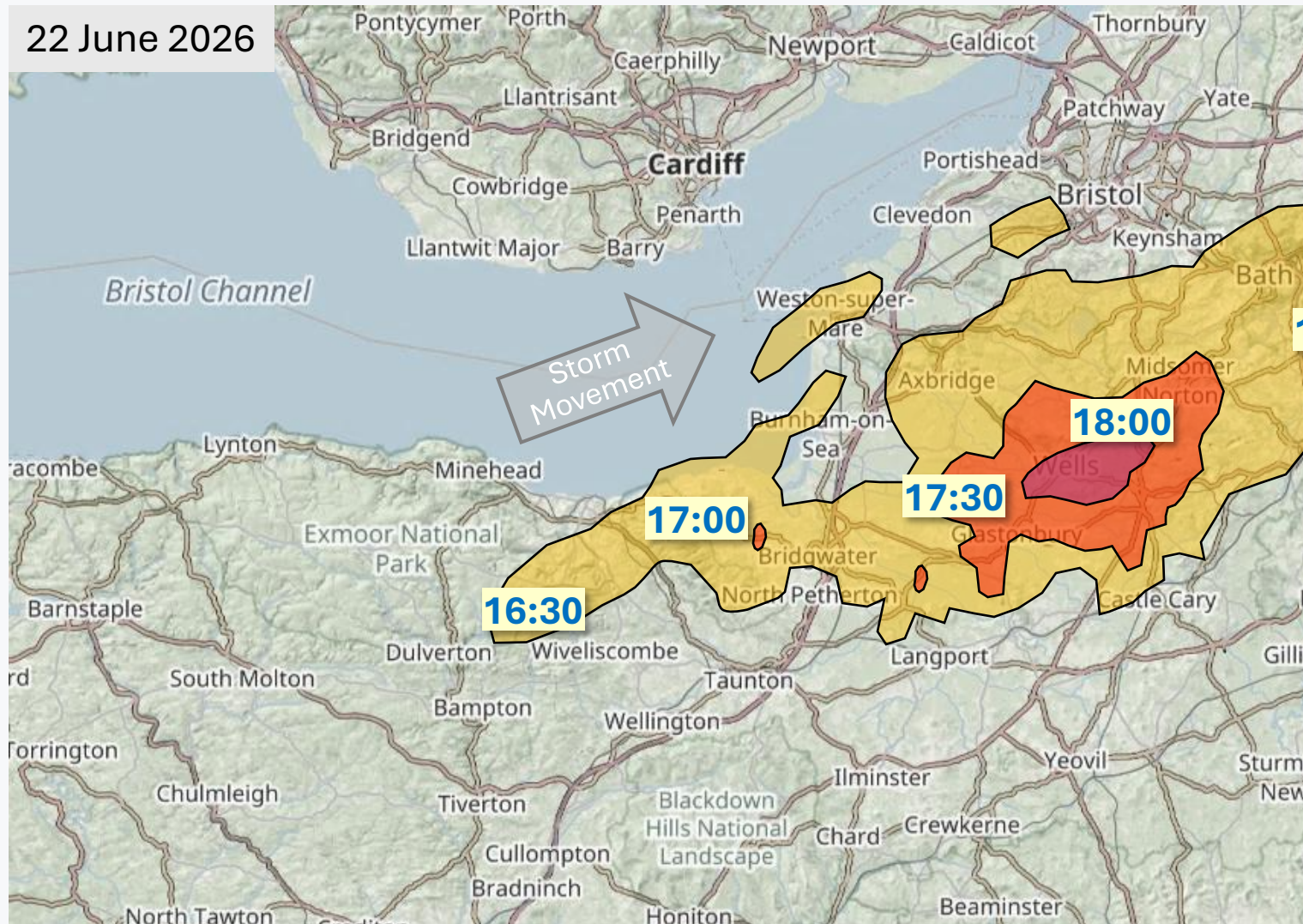
Community Response – What worked well?

Community Resilience in Action

- Businesses helped neighbouring businesses
- Local residents shared information, helped neighbours and cleared blocked drains
- Social media provided situational awareness
- Rapid clean-up and recovery efforts
- A Glastonbury business owner noted how local businesses "rallied around to help each other" (*Somerset Daily article*)

Strong community networks enhance resilience

Rainfall Totals (estimated by radar)



Estimated Rainfall

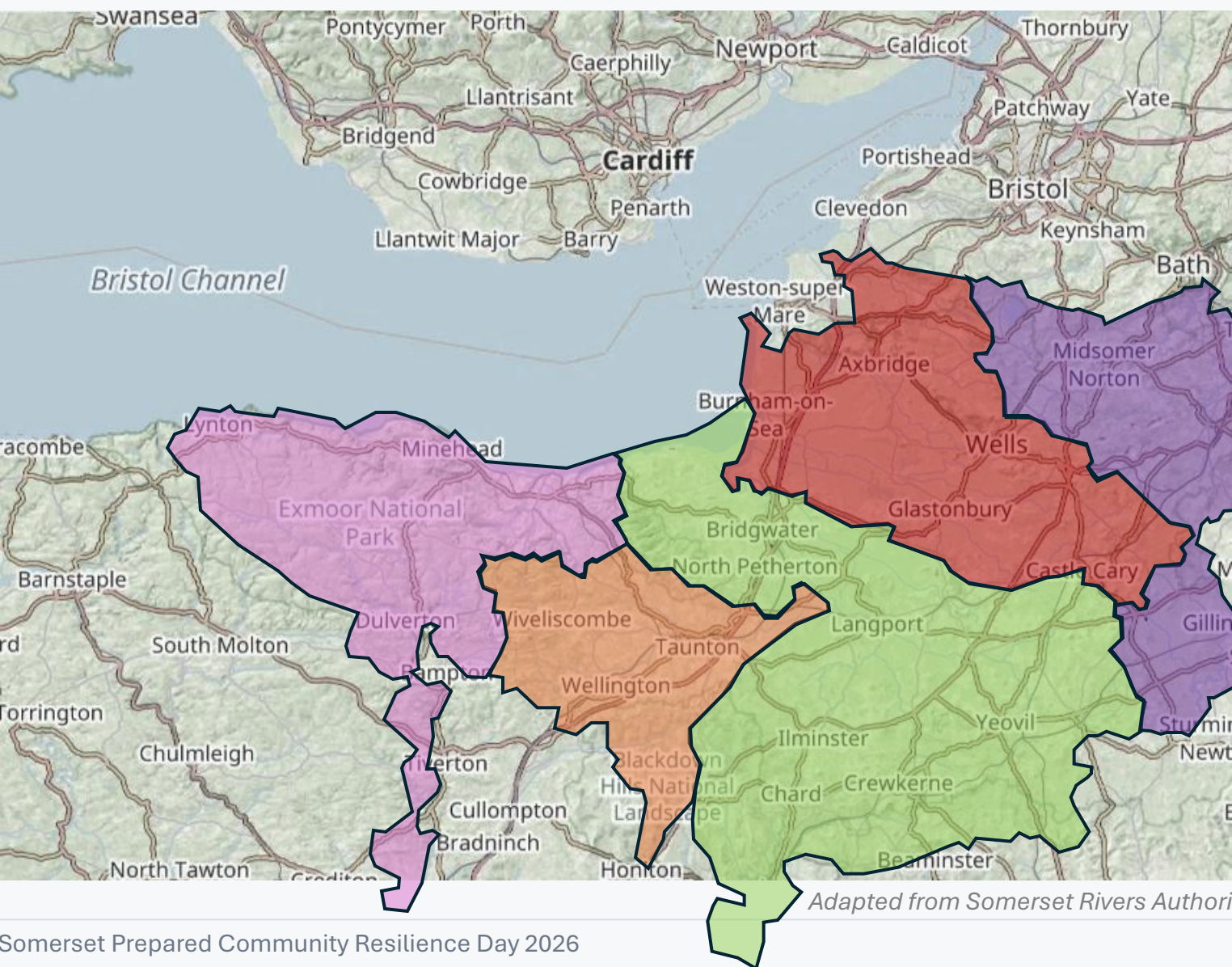
- >40 mm (1½ inches)
- 30-40 mm (1⅛ - 1½ inches)
- 20-30 mm (¾ - 1⅛ inches)

Monthly mean rainfall for June is ~ 60 mm

Approximately:

Half a month's rainfall fell in less than 30 minutes!

Somerset River Catchments

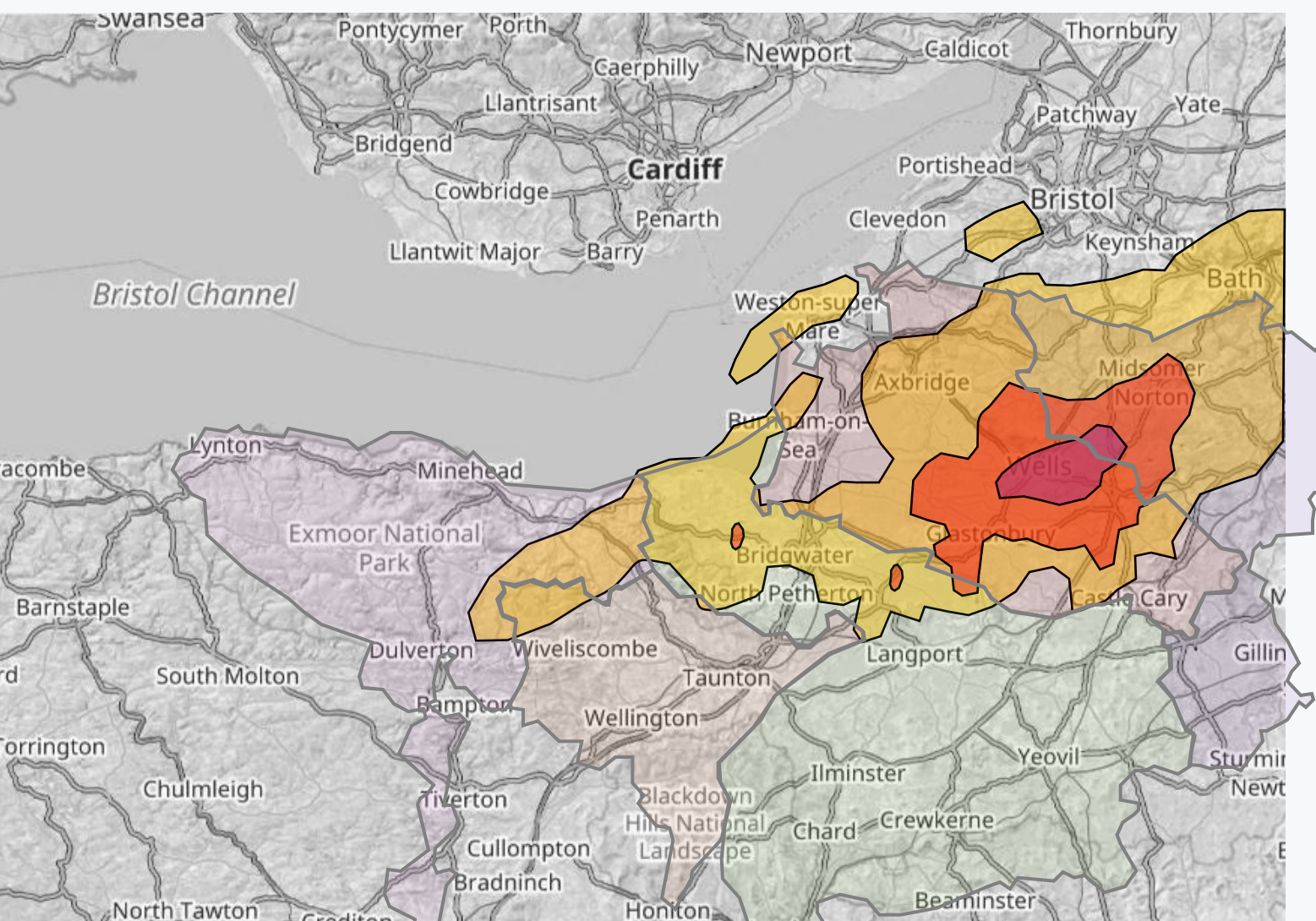


Catchment Areas

- West Somerset Exe
- Tone
- Parrett Yeo Isle
- Axe and Brue
- Frome

Adapted from Somerset Rivers Authority

Rainfall Total Over Catchments



Catchment Areas

- West Somerset Exe
- Tone
- Parrett Yeo Isle
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- Frome

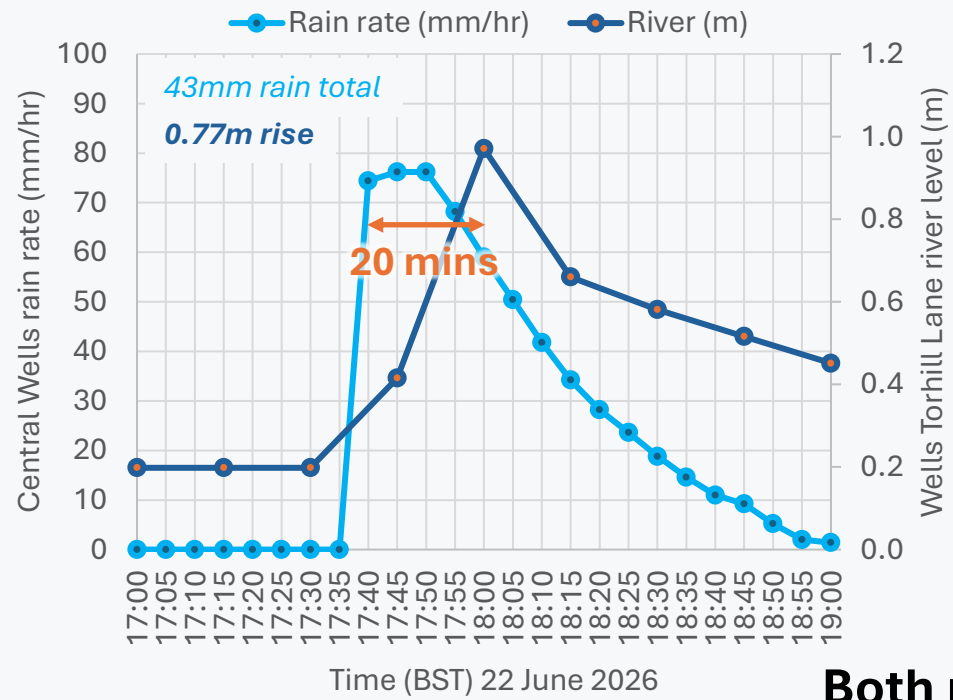
Adapted from Somerset Rivers Authority

Response at Highest Rainfall Catchments

The two fastest river rises in Somerset

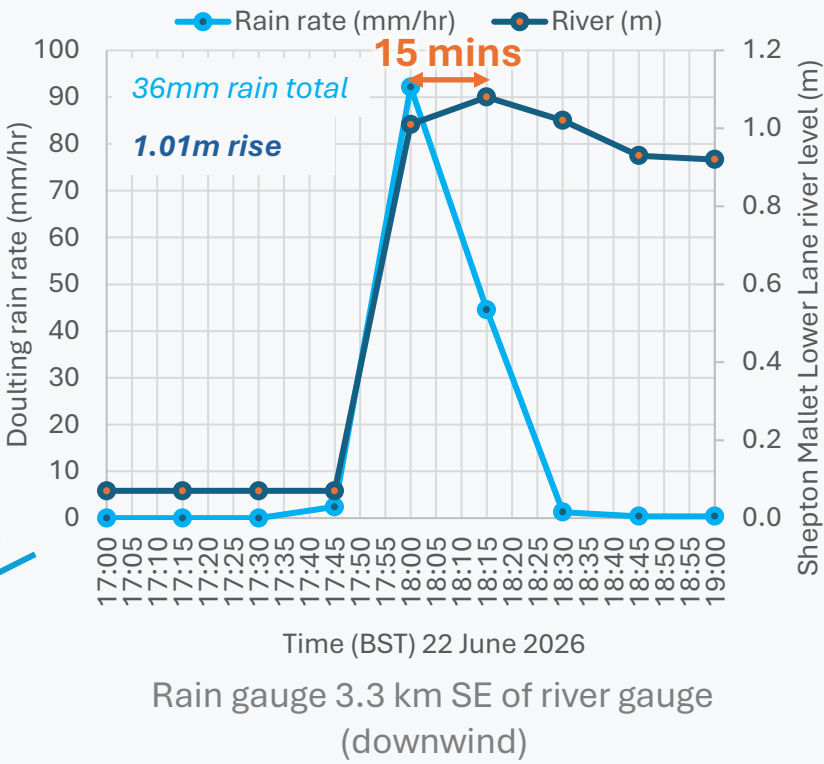
Catchment Areas

- Axe and Brue
- Frome



Rain gauge 0.9 km NW of river gauge

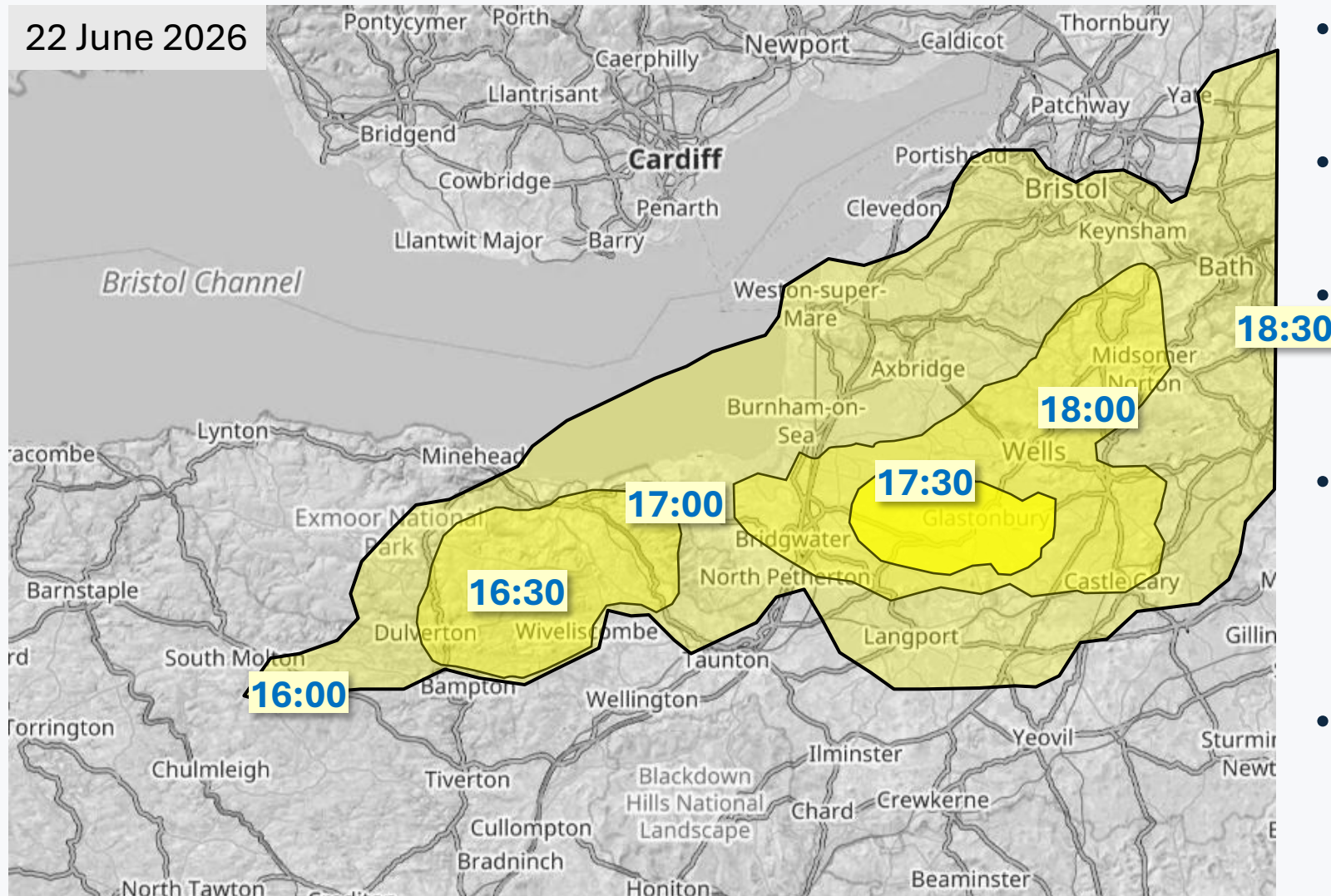
Both rivers rose by ~1m in less than 30 minutes
Sudden onset contributed to the event's impact



Rain gauge 3.3 km SE of river gauge (downwind)

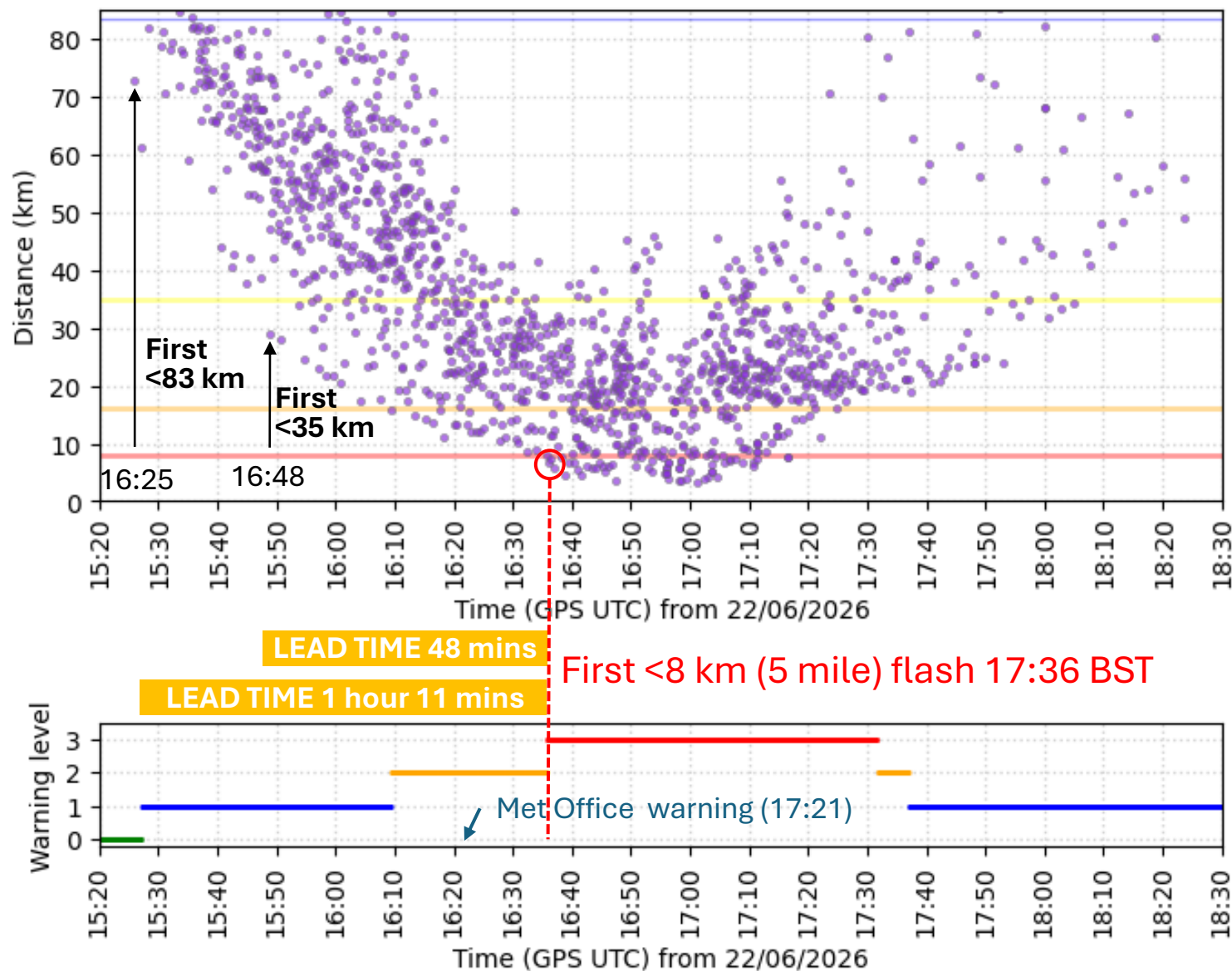
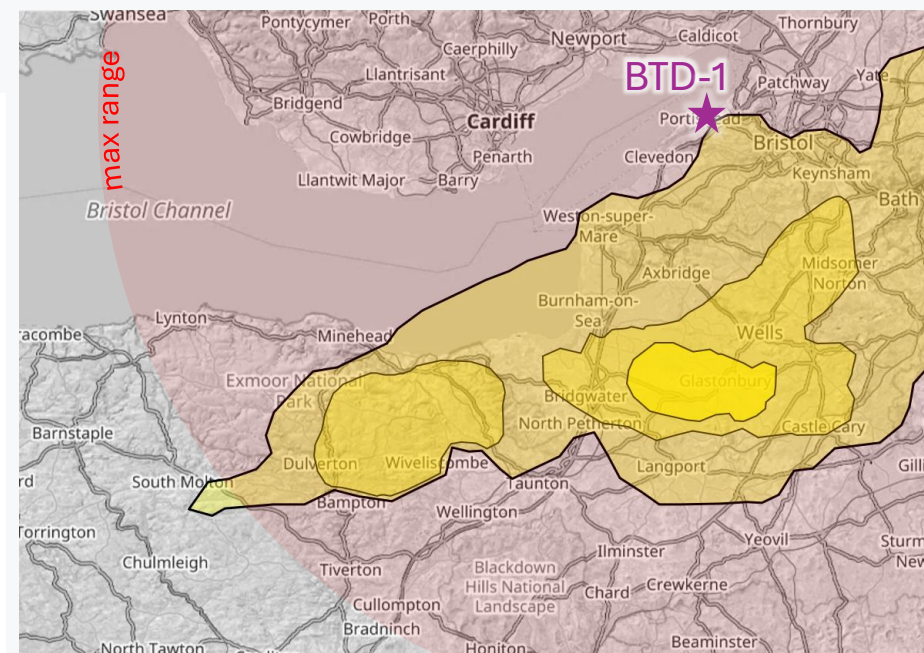
Lightning Activity

Direct threat but also indicator of where the greatest impact of the storm may occur



- Lightning was early indicator of strengthening storm
- Lightning associated with areas of highest rainfall rates
- Lightning flash rate increases sharply before the most intense rainfall
- Most significant lightning impacts (Airport and property fire) occurred outside of highest activity
- No reported strikes to people or livestock, but Somerset's exposed and popular hills and Levels are risk factors

Lightning Activity from Portishead BTD-1



BTD-1 Thunderstorm Warning System

Designed and built in Somerset
>500 deployed worldwide

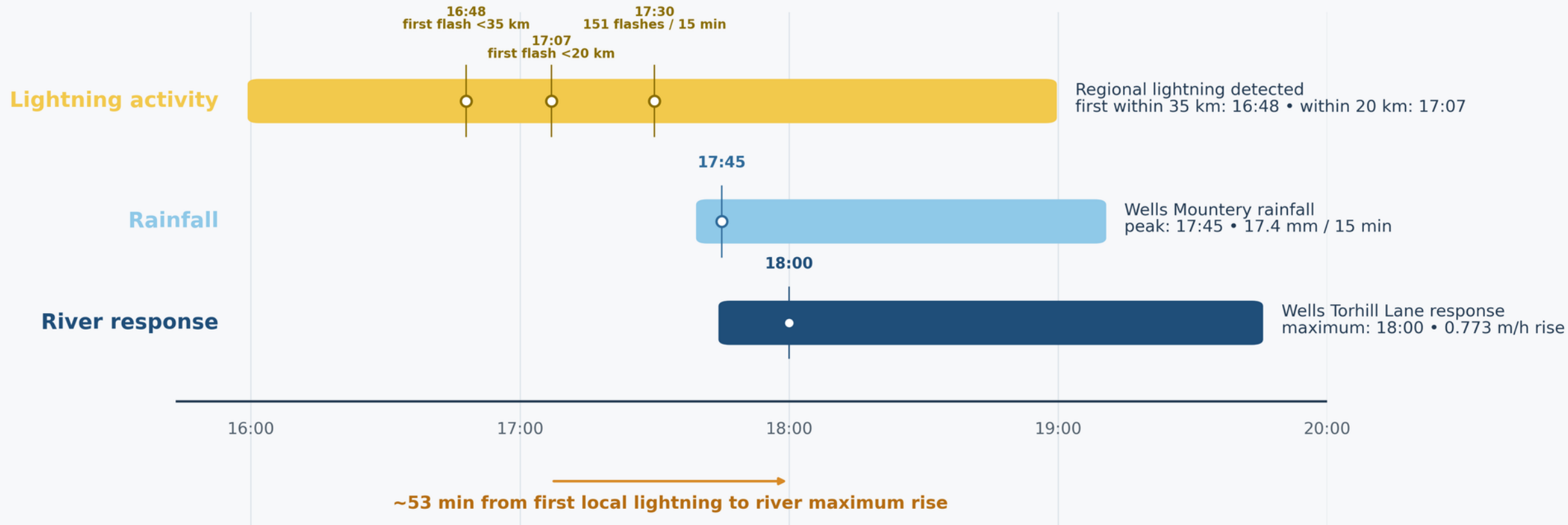
- Locates lightning in real-time
- 80 km (50 mile) range

Monitored the developing storm
as it approached the region



Wells area: local signals arrived in sequence

22 June 2026 • displayed times BST • bars show observed activity/response windows, not formal warning thresholds



1. **Lightning** provided the earliest local signal
2. **Rainfall** confirmed surface-runoff potential
3. **River gauges** confirmed catchment response

Wellow Brook Flood-Wave Propagation

Elongated catchment

18:45 Welton maximum height

Early upstream response rapid rise & fall

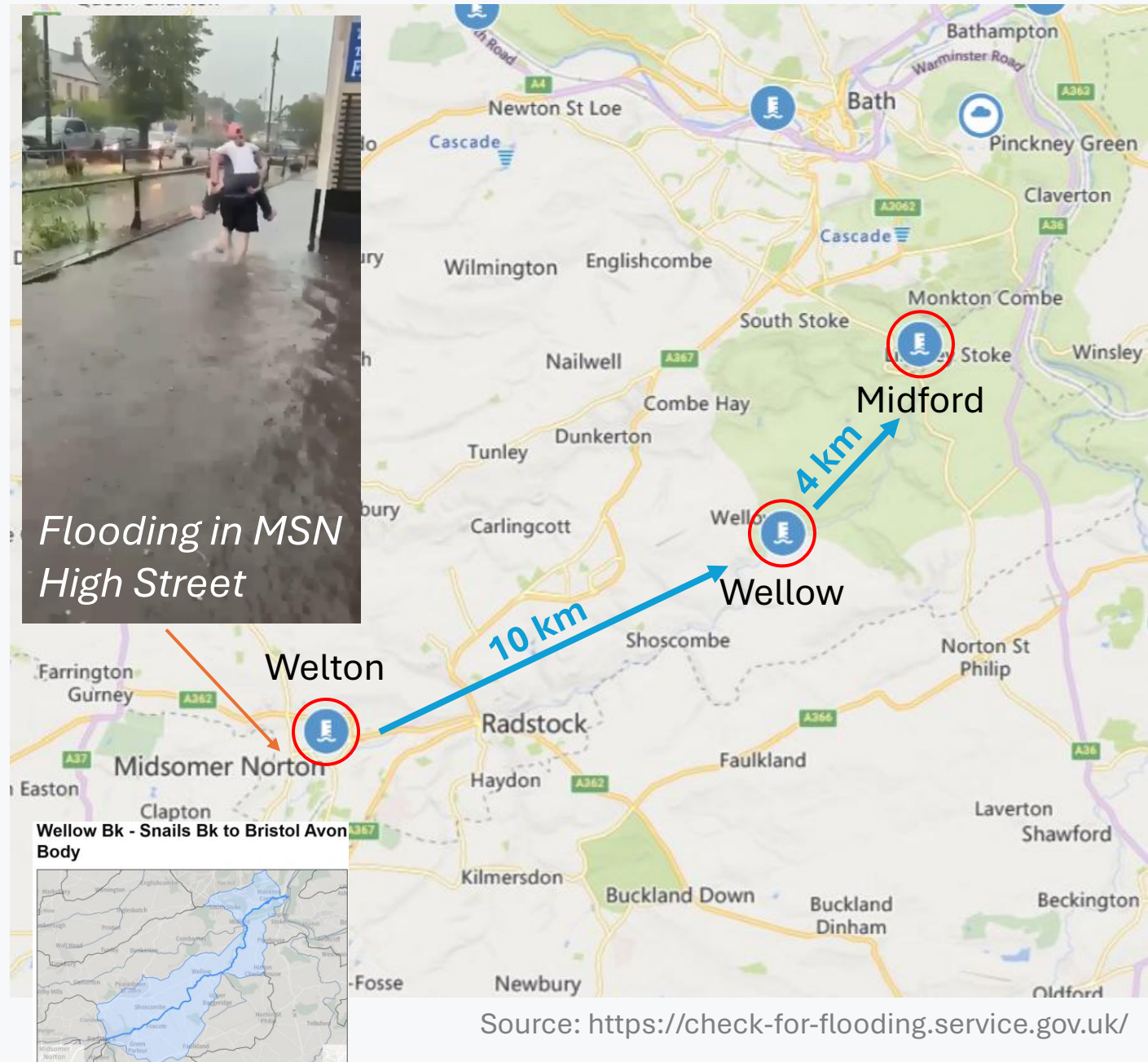
21:45 Wellow maximum height

Strongest flashy response

00:15 Midford maximum height

Delayed and slower response

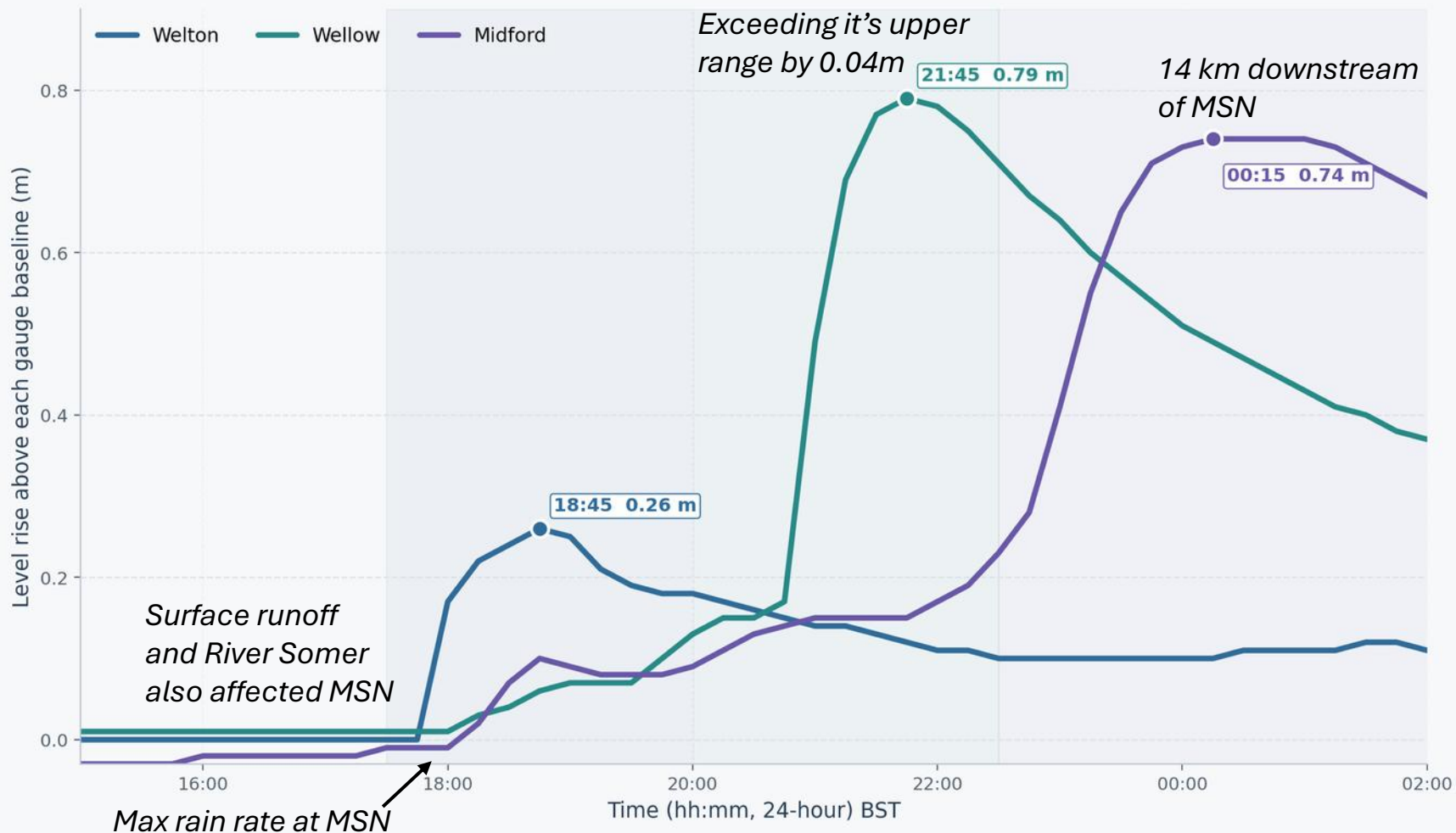
Response becomes later and broader downstream, peaking long after the thunderstorm has left the area



Source: <https://check-for-flooding.service.gov.uk/>

Response shapes: rapid local rise near source, broader response downstream

Wellow Brook case study — Welton → Wellow → Midford • level data normalised to each gauge baseline • times shown as hh:mm BST



Interpretation: Wellow records the strongest rapid-rise pulse; Midford responds later and remains elevated longer. Absolute levels are not compared because gauge datums differ.

Shape progression

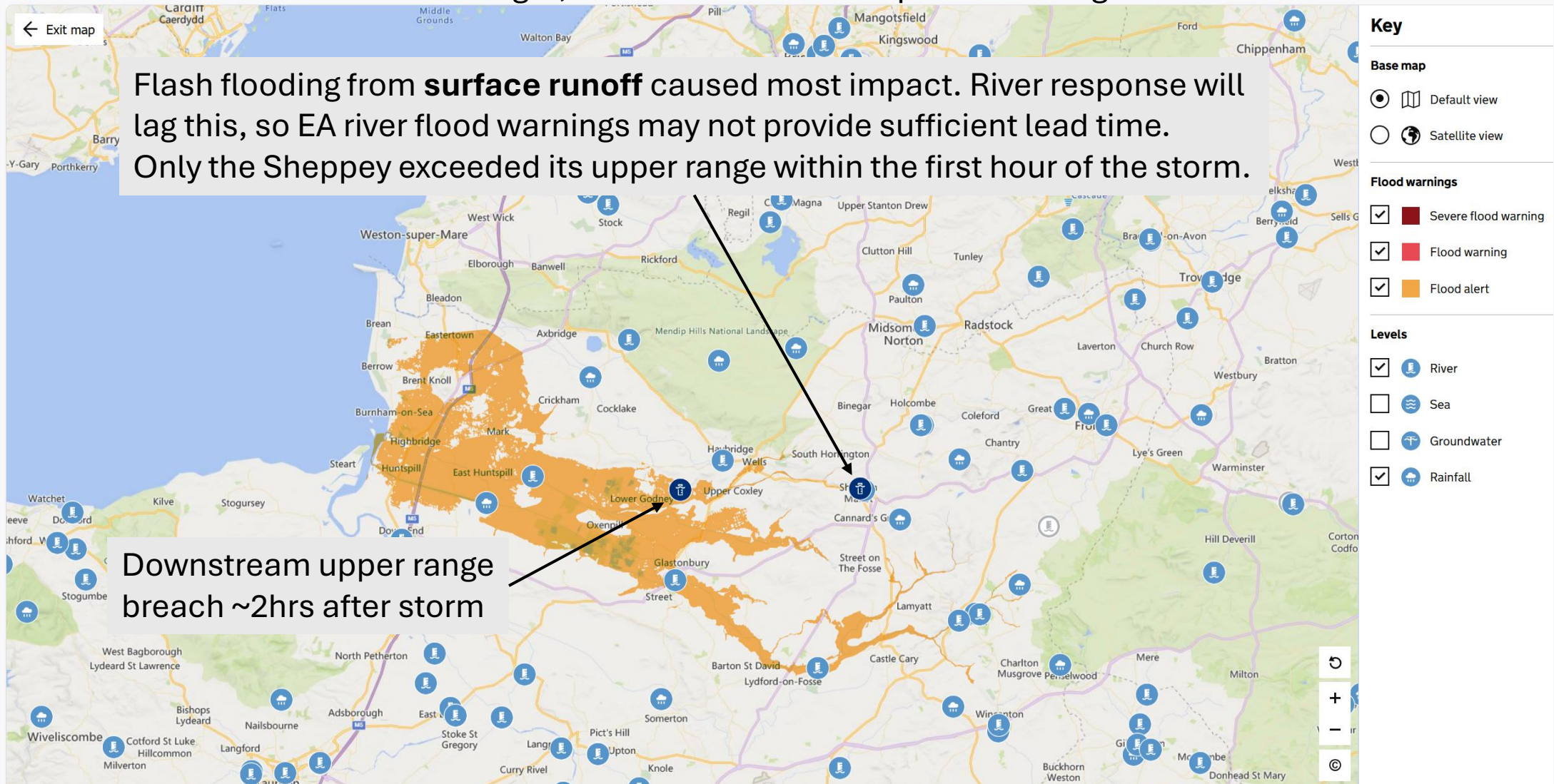
- Welton**
Earliest response
rapid, compact pulse
- Wellow**
Delayed but strongest
short-term rise
- Midford**
Later, broader routed
response

Rates of rise

15-min: 0.17 → 0.32 → 0.14 m/h
1-hour: 0.26 → 0.62 → 0.43 m/h

Flood Alert was issued at 18:47 following rise of the River Sheppey

Situation at midnight, ~6 hrs after the storm passed through



One severe storm - several competing priorities

The storm arrived while Somerset was already managing a significant heat warning

HEAT

Welfare checks, care settings, public health and staffing pressure

FLOODING

Rapid surface-water flooding, river response and access problems

LIGHTNING

Fire risk (structural and wildfire), equipment damage and public safety

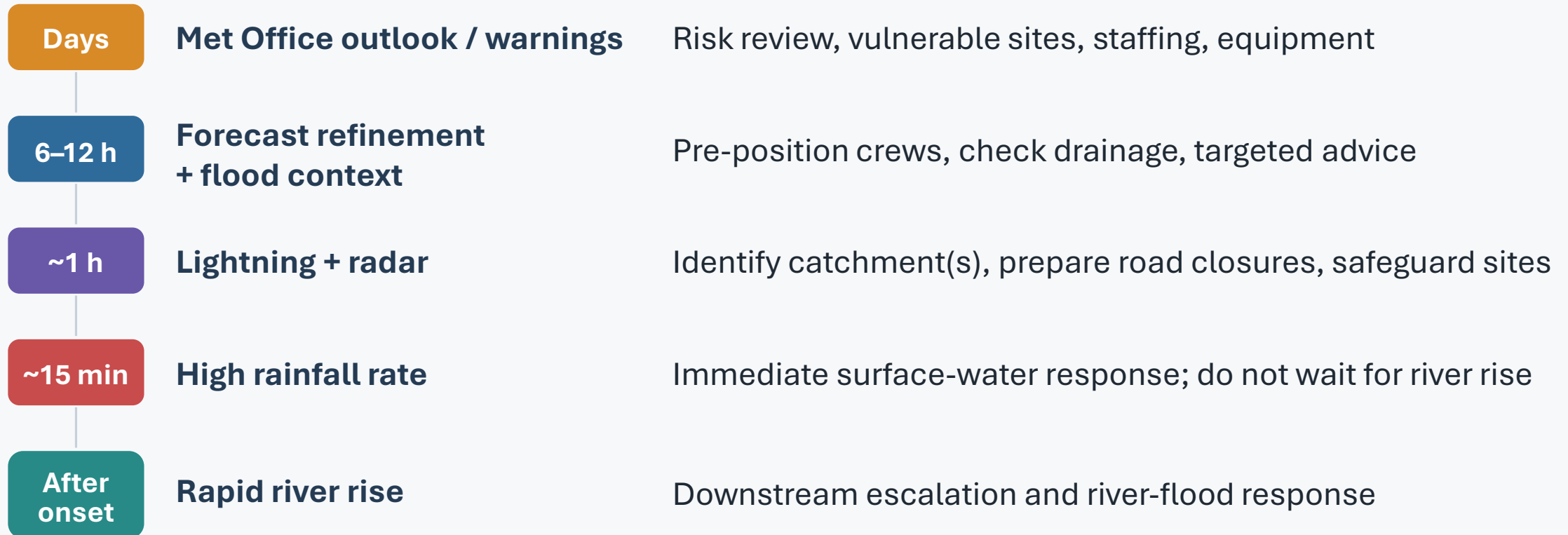
INFRASTRUCTURE

Airport, roads, power, drainage and communications disruption

Key question When one major warning is active, how do we keep scanning for a faster-moving secondary hazard?

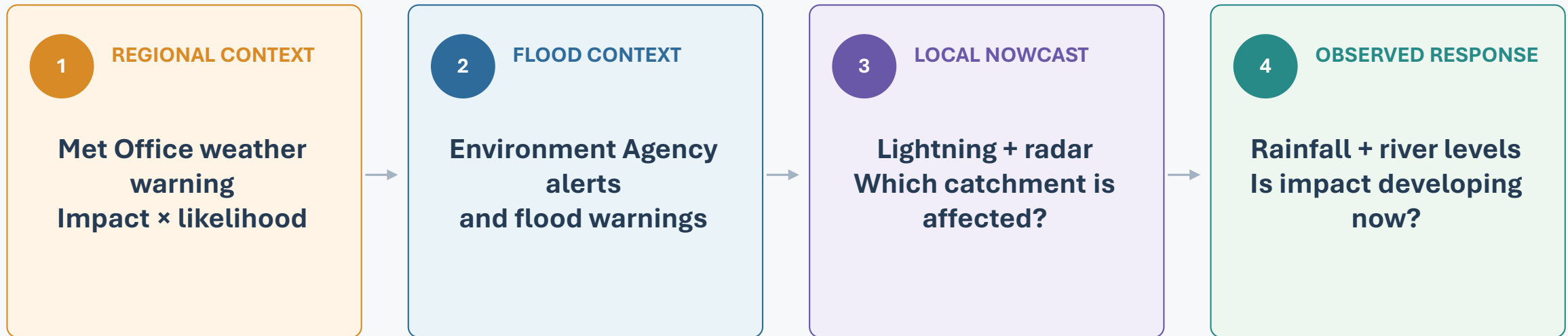
Different signals support different actions

Use the shortest reliable lead time for the decision that must be made



A layered warning chain – Regional context with local observations

Official warnings set the context; use local data to refine place, timing and action



Observations at the local community level:

Lightning provides early local context (*storm approaching and lightning risk*)

Rainfall confirms runoff potential (*flash flood risk*)

River Gauges confirm catchment response (*river flooding risk*)

Summary

The Somerset storm demonstrated that severe thunderstorms create simultaneous impacts across public safety, transport, buildings, utilities, businesses and emergency response.

Resilience therefore can be improved by:

- Keeping up to date with government weather and flood warnings
- Greater local situational awareness from automated warnings linked to real-time observations
- Recognising competing hazards and communicating the right information to the person who can act

Exercise: Given this case study, identify one change to your own organisation's warning or coordination process