Hypothetical scenario for planning purposes. Not a forecast.

Rising Water

A hypothetical major flood scenario for UK resilience planning: river and surface water flooding, evacuation, lost power and roads, and how offline preparedness information helps



Illustration: AI-generated, fictional. *A generic town street with floodwater and sandbags at dawn.*

Published by: Preptorum Ltd, company no. 16410799, 68 Frognal, London NW3 6XD

Date: 15 October 2026

Status: Hypothetical scenario for planning purposes. Not a forecast. It is not an official assessment.

Independence: Preptorum Ltd is an independent company. It is not affiliated with, or endorsed by, any government department, LRF or council. Its drives are built from published GOV.UK, NHS and LRF guidance.

Executive summary

This paper sets out a hypothetical scenario in which a week of heavy autumn rain on saturated ground leads to river and surface water flooding across a fictional county. Flood warnings escalate to severe flood warnings, part of a riverside town is evacuated, a substation is switched off as water rises, and closed bridges cut off villages. It is a planning tool, not a forecast. It is anchored in real UK floods and looks at how offline preparedness information can help households and communities at each stage.

What is real (sourced)

- **Floods take out utilities.** In the 2007 summer floods, 55,000 properties flooded and almost half a million people lost mains water or electricity. The loss of one water treatment works left 350,000 people without mains water for up to 17 days. The Pitt Review called it the country's largest peacetime emergency since World War II. [1]
- **Information goes with the power.** When Storm Desmond flooded a Lancaster substation in December 2015, 61,000 properties lost power. Most mobile coverage went within an hour, along with internet, card payments and most cash machines. The Royal Academy of Engineering found the biggest impact was that "few knew what was happening". [2]
- **Recent and widespread.** The Environment Agency estimates that 6.3 million properties in England are in areas at risk of flooding, 4.6 million of them from surface water. [8] Storms Babet (2023), Henk (2024) and Claudia (2025) brought evacuations, major incidents and thousands of flooded properties. [4–7]

What the scenario shows

The warning system is strong: Environment Agency flood alerts and warnings, the Flood Forecasting Centre's target of at least three days' lead time for river floods, and Floodline. [9, 10] The shared concern is what follows. Once people have evacuated or the power is off, the advice they need (returning home safely, floodwater and health, clean-up, help available) mostly lives online, and the networks to reach it may be down. Surface water flooding can also arrive with only 6–24 hours' warning. [10]

How offline information helps

- **Saved guidance:** Published GOV.UK, Environment Agency, NHS and LRF guidance on flood plans, evacuation, floodwater safety and recovery can be saved in advance and read on a charged laptop with no signal.
- **Offline search:** A search tool that runs on the device helps people find the relevant published page. People then act on it themselves.
- **Kept current:** Saved guidance can refresh when it reconnects, so the alert stage is a good time to update.
- **Where it is held:** Households in flood-risk areas, rest centres, community hubs and flood groups.

When preparation matters most

Preparation is easiest before the wet season and during the flood alert stage (Phases 0–1), when networks are healthy. Rest centres and cut-off communities are where saved guidance matters most (Phases 3–4). Recovery (Phase 5) lasts months, and offline recovery guidance stays useful long after the water goes down.

1. Purpose, scope and caveats

- **Hypothetical.** Sections 4–5 are invented to support planning discussions. They are not a forecast, a flood risk assessment or an official view.
- **Sourced context.** Section 2 uses only publicly reported facts, cited in the Sources list.
- **Fiction is labelled.** The county, the town of "Elmwater", its river and all characters are fictional. Illustrations are AI-generated and show no real place, person or damage.
- **About the guidance.** Preptorum drives are built from published GOV.UK, NHS and LRF guidance. Preptorum Ltd is not affiliated with, or endorsed by, any government body. The offline search helps people find published guidance; it does not give medical advice. Nothing in this scenario depends on phone helplines being reachable. In immediate danger, follow the official flood advice to call 999.

2. What real UK floods tell us

2.1 Summer 2007: the benchmark

- **Scale.** 55,000 properties flooded, around 7,000 people were rescued and 13 people died. Almost half a million people were left without mains water or electricity, the largest loss of essential services since World War II. [1]
- **Cascading failures.** In Gloucestershire, the loss of one water treatment works left 350,000 people without mains water for up to 17 days. One substation was shut down, leaving 42,000 people without power for up to 24 hours, and another was threatened. Some 10,000 people were trapped on a motorway. [1]
- **Information.** The Pitt Review found that in some areas "essential public information did not get through", and that people struggled to get timely advice. [1]

2.2 Storm Desmond, December 2015: Cumbria and Lancaster

- **Cumbria.** Honister Pass recorded 341.4 mm of rain in 24 hours, a new UK record. In Cumbria, 7,465 properties flooded (about 14,694 people), around 17,911 customers lost electricity at the peak, and an estimated 792 bridges were affected. [3]
- **Lancaster blackout.** A flooded substation cut power to 61,000 properties in Lancaster at 10.45 p.m. on 5 December. Supplies came back gradually, were cut again, and were fully back to normal by 11 December. [2]
- **What people experienced.** Most mobile coverage was lost within an hour. Internet, card payments and most cash machines failed, and petrol pumps stopped. Many people had no battery radio. With GP, pharmacy and NHS phone-line access disrupted, the hospital became the "go-to" place for queries, even about how to heat food without an electric cooker. [2]

2.3 Recent floods (2023–2025)

- **Storm Babet, October 2023.** The Met Office issued a red "threat to life" warning. Brechin's flood protection scheme was overtopped and breached, and nearly 350 properties were evacuated. [4] In England, the Environment Agency reported 2,146 properties flooded, an estimated 96,000 protected, and over 300,000 warning messages sent by email, phone and text. [5]
- **Storm Henk, January 2024.** Rain on already saturated ground pushed the Trent, Thames, Severn and Avon to record or near-record levels. About 2,000 properties flooded, the EA issued 300 flood warnings, and some residents were evacuated. [6]
- **Storm Claudia, November 2025.** A major incident was declared after the River Monnow burst its banks. People were rescued from homes, some were evacuated to a library, and the fire service said hundreds of homes were without power. [7]

2.4 UK official framing

- **National Risk Register 2025.** The 2025 register's river flooding scenario includes large-scale evacuation (many people needing assistance) and "medium-term (days to weeks) loss of essential services (electricity and telecoms)". Its surface water scenario assumes only 6–24 hours' warning. It notes the Flood Forecasting Centre's target of at least three days' lead time for river floods. [10]
- **Environment Agency warnings.** In England there are three levels: flood alert (flooding possible, usually 2–12 hours ahead), flood warning (flooding expected, usually 30 minutes to 2 hours ahead) and severe flood warning (danger to life). Warnings are available by phone, text or email, and Floodline runs 24 hours. [9]
- **Rising exposure.** The EA estimates 6.3 million properties in England are in areas at risk of flooding, and around 8 million (one in four) by mid-century with climate change. [8]
- **Connectivity and preparedness.** Digital landlines need mains power and fail in a power cut without battery back-up. [11] The Resilience Action Plan aims to help individuals and communities prepare. [12]

Taken together: the warning system works and has protected very large numbers of properties. The shared concern is the period after evacuation or power loss. People then need practical guidance that mostly sits online, and the channels to reach it may be unavailable. Offline preparedness information is meant to complement existing work, not replace it.

3. How a major flood cascades (public-level view)

This is a general map drawn from the precedents above, to help plan public impacts. It does not assess any specific site.

System	What happens in a major flood
Homes and businesses	Flooded ground floors, evacuation, displacement for days to months (2007, Desmond, Babet).
Electricity	Substations flooded or switched off for safety. Whole towns lose power (Gloucester 2007, Lancaster 2015).
Telecoms	Mobile coverage lost within an hour of a large power cut (Lancaster). Digital landlines and routers stop.
Water and sewerage	Treatment works flooded. Bottled water and bowsers needed for days to weeks (Gloucestershire 2007).
Roads, bridges and rail	Closures, bridge damage, stranded travellers, villages cut off (Cumbria 2015: about 792 bridges affected).
Health and care	GP, pharmacy and phone access disrupted. Demand shifts to hospitals (Lancaster).
Information	Warnings reach people well in advance. Afterwards, power and signal loss leave many unsure "what is happening" (Lancaster).

4. The hypothetical scenario: the "Elmwater floods"

Before reading

This scenario is fictional and simplified. Timings are loosely based on the precedents in Section 2, but no real flood follows a script. The Environment Agency, councils and emergency services would lead the response. Offline preparedness information is a complementary tool. All characters and places are invented.

Phase 0: Before the wet season (weeks to months ahead)

Elmwater is a riverside market town with a flood defence scheme, older terraces on the floodplain and a newer estate that has never flooded but lies in a surface water risk area. Some residents have signed up to flood warnings; many have not.

Vignette (fictional): *Sam and Leah rent a terraced house two streets from the river with their two children. They have a phone each, broadband with a digital landline, and no flood plan. They assume "the council will text us".*

What fails	Nothing yet. Underlying dependencies: warnings and advice mostly by phone, text, web and social media.
What the public sees	Normal life. Uneven awareness of flood risk and of what to do.
What officials need	Flood plans, warning sign-ups, community flood groups, rest centre planning, exercises.
How offline information helps	Preparing ahead is easiest now. Households in risk areas, flood groups, rest centres and hubs can keep published flood-plan, evacuation and recovery guidance saved offline. Exercises can include a phase with no power or signal.

Phase 1: Wet build-up and flood alerts (Day −5 to Day −1)

- **Days −5 to −3.** A slow-moving weather system brings repeated heavy rain onto ground saturated by a wet autumn. Forecasters highlight elevated river flood risk days ahead.
- **Day −2.** The EA issues flood alerts along the river. Defences are checked and temporary barriers deployed.
- **Day −1.** An amber, then red, rain warning. Flood alerts are upgraded to flood warnings for low-lying streets. The council prepares a rest centre at a school.



Illustration: AI-generated, fictional. *A family moving belongings upstairs in the evening, with a flood checklist open on a laptop.*

Vignette (fictional): *Day −1, 8 p.m. Leah gets the flood warning text. The family drive from the community flood group has been plugged in since the alert, and its app has pulled the latest published flood guidance. Sam opens the "flood warning: what to do" checklist on the laptop. They move photos, documents and*

medicines upstairs, pack a grab bag, charge the laptop and power bank, and find the torch.

What fails	Nothing yet. Pressure on websites, Floodline and social media as people look for advice.
What the public sees	Rain, rising rivers, alerts and warnings, uncertainty about whether to leave.
What officials need	Clear warnings, defences operated, rest centres readied, vulnerable people identified.
How offline information helps	The alert stage is the time to refresh. Saved guidance that is plugged in now picks up the latest published advice. Households can work through flood-plan checklists while they still have power.

Phase 2: Flooding and evacuation (Day 0)

- **Early morning.** The river overtops defences in places (fictional). A severe flood warning is issued for the oldest streets, and emergency services help residents to evacuate.
- **Morning.** Intense downpours cause surface water flooding on the newer estate, where drains are overwhelmed, with little notice.
- **Midday.** A rest centre opens in a school sports hall. Roads into the town centre close.

What fails	Homes on the floodplain and estate. Local roads. Some shops and services.
What the public sees	Fear, rushed evacuation, worry about pets, medicines and belongings, confusion about where to go.
What officials need	Safe evacuation, rest centre operation, accurate public information, rumour control.
How offline information helps	Households with saved guidance already have evacuation checklists to hand. Rest centre staff can look up published guidance for common questions without relying on a signal.

Phase 3: Peak and loss of utilities (Days 1–2)

- **Day 1.** Rising water reaches a primary substation, and it is switched off for safety. Most of Elmwater loses power, including streets that never flooded.
- **Day 1.** Mobile coverage fades within hours, as in Lancaster. Broadband and digital landlines stop. Card payments and cash machines fail. Fuel pumps stop.
- **Day 2.** A water treatment works is affected (fictional). Precautionary advice is issued and bottled water is distributed at set points, announced by leaflet, radio and loudhailer.
- **Day 2.** Rumours spread on what channels remain: false claims about dam failures, contaminated taps, looting and “where to get compensation”.



Illustration: AI-generated, fictional. *A school sports hall used as a rest centre, with a volunteer helping a family look up guidance on a laptop.*

Vignette (fictional): *Day 2 at the rest centre. Priya, a (fictional) council volunteer, keeps the LRF's hub drive running on a laptop powered by the school's generator. She is asked the same questions again and again: Is it safe to go back for medicines? What do I do about the food in my fridge? Can children play near floodwater? Where is bottled water being handed out? She looks each up with the offline search, reads out the published guidance and points people to the printed notices from the council.*

What fails	Power across the town, mobile and broadband, payments, fuel, water treatment, roads and bridges.
What the public sees	No power, no signal, cash only or no payments, worry about water, rumours, displacement.
What officials need	Keep people safe and informed without networks. Run rest centres. Distribute water. Counter rumours. Protect vulnerable people.
How offline information helps	Published guidance stays readable offline in upstairs rooms and rest centres, and an offline search tool finds the right page without a signal. A dated copy of published guidance gives people something steady to check rumours against.

Phase 4: Cut off and displaced (Days 3–7)

- **Days 3–4.** Two bridges are closed for inspection. Several villages are reachable only by long detours. Power is restored in stages using generators, as in Lancaster.
- **Days 4–6.** Water levels fall. People want to go home, and safety becomes the main issue: electrics, gas, contaminated water, mould and clean-up.
- **Days 5–7.** Some families stay in temporary accommodation. Others return to upstairs rooms. The most common questions are about health, insurance and support available.

Vignette (fictional): *Day 5. Gareth, a (fictional) LRF officer, arranges for refreshed drives to be taken to the village halls in the cut-off villages. At the council offices they were updated with the latest published*

recovery guidance and local support information. Hub volunteers can copy updates to residents' drives.

What fails	Bridges and some roads. Normal services in affected streets. Housing for displaced families.
What the public sees	Exhaustion, anxiety about homes and money, confusion about what is safe, isolation in cut-off villages.
What officials need	Safe return, health messaging, welfare support, recovery information, consistent messages across agencies.
How offline information helps	Updated copies of guidance can be taken to hubs in cut-off villages. Published recovery guidance (returning home, cleaning up, floodwater and health) stays to hand, which can save calls and journeys.

Phase 5: Recovery (weeks to months)

- **Weeks 2–12.** Drying out, repairs, insurance claims and support schemes. In England, the government has previously activated a Flood Recovery Framework with support for affected households. [6]
- **Months.** The NRR notes that the mental and physical impacts of major floods can last for years. [10] Debriefs look at how information reached people once they had evacuated or lost power.

What fails	Normal services mostly restored. Many homes still uninhabitable.
What the public sees	A long, tiring recovery. Need for reliable, practical information over months.
What officials need	Recovery coordination, community support, lessons learned, better preparation for next time.
How offline information helps	Recovery guidance stays to hand for the months it takes, and refreshes when a connection returns. Debriefs can look at how information reached people after evacuation or power loss.

5. Timeline: from rain to recovery (hypothetical)

When	Phase	Events (hypothetical)	Public impacts	How offline information helps
Months before	**Before the wet season**	Flood plans; warning sign-ups; flood groups; exercises	None visible; uneven awareness	Guidance saved offline in homes, rest centres and hubs; offline-phase exercises
Day −5 to −1	**Build-up and alerts**	Saturated ground; flood alerts then flood warnings; red rain warning	Anxiety; preparing; busy websites and lines	Refresh saved guidance at the alert stage; offline flood-plan checklists
Day 0	**Flooding and evacuation**	Defences overtopped; severe flood warning; surface water flooding; rest centre opens	Evacuation; fear; confusion	Evacuation checklists offline; rest centres look up guidance
Days 1–2	**Peak; utilities lost**	Substation switched off; masts fail; payments and fuel down; water advice; rumours	No power or signal; water worries; displacement	Offline guidance and search; dated copy of published guidance to check rumours against
Days 3–7	**Cut off and displaced**	Bridges closed; staged power restoration; return home	Exhaustion; safety questions; isolation	Updated copies taken to hubs; recovery guidance offline
Weeks to months	**Recovery**	Repairs; insurance; support schemes; debriefs	Long recovery; health and money worries	Recovery guidance to hand; lessons learned

Colour band runs from green (normal) through red (peak) to blue (recovery). All events in this table are fictional.

6. How offline preparedness information helps at each stage

The Environment Agency, Lead Local Flood Authorities, councils, LRFs and emergency services lead the response. Offline preparedness information is a modest, complementary layer. It helps people find published guidance when the usual online channels are hard to reach. People then decide and act for themselves.

Before flooding

- **Guidance in place early.** Rest centres, community flood groups, village halls, schools, libraries and care homes in flood-risk areas can keep published flood guidance saved offline.
- **Households at risk.** Households in risk areas, especially vulnerable residents, gain most from having flood-plan and evacuation guidance saved before they need it.
- **Local information together.** Published flood plans, evacuation guidance, rest centre information and local contacts can sit together in one offline place, in Welsh and Gaelic where relevant.
- **Practising without networks.** Flood exercises can include an offline phase, testing whether rest centre staff and volunteers can find published guidance with no power or signal.

When alerts and warnings are issued

- **Refresh while networks are up.** Plugging in saved guidance at the flood alert stage picks up the latest published advice.
- **Alongside existing channels.** Saved guidance sits alongside EA warnings, Floodline, broadcast and door-knocking. It does not replace any of them.

During and after

- **Rest centres as information points.** Volunteers can answer common questions from published guidance. People then decide for themselves.
- **Refreshing without a connection.** Updated copies can be taken to cut-off villages and temporary accommodation and shared locally.
- **Recovery guidance.** Returning home safely, floodwater and health, clean-up and support schemes stay available offline for the months recovery takes.
- **A steady reference.** Dated copies of published guidance help people check rumours about water safety, defences or support schemes.

About Preptorum

Preptorum Ltd makes offline drives built from published GOV.UK, NHS and LRF guidance, with an on-device search tool (GPT4All) and offline general reference material. Drives refresh when they reconnect. Preptorum Ltd is independent and is not affiliated with, or endorsed by, any government department, the Environment Agency, any LRF or council. The search tool helps people find published guidance; it does not give medical advice.

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Illustrations: AI-generated, fictional. They do not depict real people, places or events.

All sources accessed 15 October 2026.