# UK Flood Hydrology Roadmap - Annual Report

April 2024 to December 2025

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# Introduction

This report is generally produced on an annual basis but on this occasion covers progress against the UK Flood Hydrology Roadmap between April 2024 and December 2025. This reporting period extends beyond a single year to enable alignment with Governance Board Chair handovers, and to facilitate publication in April, in line with the UK financial year-end.

The report begins with a contextual overview of the Roadmap, outlining its mission, purpose, and the organisations involved in its governance and delivery.
This is followed by a detailed account of Roadmap delivery during the reporting period, structured around the Roadmap's core themes. This section highlights key developments, activities, and improvements made across these areas.
Communications and engagement activity is then summarised through a table listing relevant events and outputs involving the Governance Board and the Scientific and Technical Advisory Group (STAG) during the reporting period, together with brief descriptions of each item.
A financial summary is provided to outline expenditure and funding arrangements supporting Roadmap activity during the period.
The report concludes with a forward look, setting out short-term priorities and planned actions, alongside longer-term considerations for the continued delivery of the Roadmap.

## Background

The UK Flood Hydrology Roadmap (UK FHR) outlines a 25-year vision for flood hydrology in the UK, spanning from 2021 to 2046. Developed by and for the UK flood hydrology community, it covers England, Wales, Scotland, and Northern Ireland[1].

The vision of this roadmap is that over the 25-year period, society will benefit from improved hydrological information and understanding to manage flood hazards in a changing world. The roadmap considers all sources of inland flooding, including fluvial, pluvial, sewers, groundwater, and reservoirs.

The Roadmap is intended for all those involved in hydrology and it overseen by the Governance Board (GB), consisting of representatives from the UK nations' governing environmental bodies, as well as representatives from the British Hydrological Society (BHS) and UK Research and Innovation (UKRI). Support to the GB is provided by the Scientific and Technical Advisory Group (STAG), a panel of experts in hydrology.

The UK FHR establishes 31 actions to be covered over this quarter-century period, grouped into 4 key areas:

- **Ways of Working**
- **Data**
- **Methods**
- **Scientific Understanding**

Current estimates are that £110 million to £165 million will be required over the next 25 years to implement the Roadmap to ensure all of its aims and goals are successfully reached.

[1] FRS18196 Flood Hydrology Roadmap R1 (publishing.service.gov.uk)

# Overview of Governance Board and Scientific & Technical Advisory Group

**Governance Board:**
The GB provides the oversight for delivery of the Roadmap and comprises representatives of the lead flood agencies from each of the UK's four nations – the EA, NRW, SEPA and the DfINI. In addition to this, the Board also consists of a representative from the BHS and UKRI. This group has been identified as a key forum to build and oversee a UK national-wide programme of works necessary to fulfil the 31 listed actions of the Roadmap. Membership of the Governance Board may expand as the Roadmap develops, and other sources of funding are identified.
Presently, the role of the Governance Board is to:

- Champion and promote the Roadmap vision;
- Identify funding opportunities to implement it;
- Encourage participation and partnership working;
- Report on progress on implementation of the Roadmap to the wider hydrological community;
- Refresh the Roadmap and action plans at appropriate intervals;
- Ensure that the Roadmap is implemented using low carbon solutions;
- Champion the principles of equality, diversity and inclusion in all aspects of the Roadmap.

**Scientific & Technical Advisory Group:**
The STAG acts as an advisory group to the GB. There are currently 15 members that form the STAG, comprised of individuals from a range of backgrounds such as educational institutions, research institutions, environmental protection groups, consultancy firms and water companies.
Utilising their expertise, the STAG is responsible for:

- Helping to shape and scope projects and initiatives to achieve the Roadmap actions and vision;
- Providing scientific and technical advice and current Roadmap projects;
- Providing peer review of selected project outputs prior to publication.

# Roadmap Delivery

The following section covers Roadmap progress made across the report period.

## Ways of Working

### Governance and Agreements

Since the previous reporting period, there have been important developments in the Roadmap's governance arrangements and contractual agreements. Most significantly, the collaborative agreement established between the four nations has been renewed and extended for a further two years, covering the period from April 2025 to April 2027. The renewed agreement underscores the strength of the Roadmap's cross-nation partnership and highlights the collective ambition to advance flood hydrology in a unified and coordinated way. This renewal ensures the continued commitment of all governing bodies and provides the stability required to maintain the Roadmap's strategic direction and delivery.

In addition to confirming ongoing inter-nation collaboration, the agreement also secured the procurement of a dedicated secretariat service for the duration of the period. This provision will continue to support the coordination, administration, and overall management of Roadmap activities, ensuring effective governance and enabling members to focus on strategic oversight.

### Reflections

Since its launch in 2022, the Roadmap has made significant progress across the UK's flood hydrology landscape. To ensure this momentum continued, both the Governance Board and STAG agreed that an in-person joint meeting would be valuable to reflect on what was working well and to identify areas for future improvement. As a result, a joint working session was held during the British Hydrological Society's Annual Symposium at Oxford University on 24th September 2024.

A number of key discussion points emerged from this reflective session, covering themes such as governance and administration, resourcing, communication and engagement, among others. These suggestions were consolidated into an action list. From these, key themes emerged including:

- Governance
- Administration
- Resourcing / Funding
- Cross-group interactions (GB / STAG)
- Roadmap Actions Co-Ordination & Delivery
- Communications &Engagement / Visibility
- Relationships and interactions with others

All actions have either been successfully completed by the efforts of Roadmap members or incorporated into ongoing activities.

A key milestone for 2025 was the first scheduled face-to-face meeting of the Governance Board, held in Oxford in May. During this session, the Board reflected on the discussions from the September meeting and how developments in the scientific and technological landscapes may have influenced the whether the ambitions set out in *The UK Flood Hydrology Roadmap* remain fit for purpose.

The Board reaffirmed that the original outcomes remain valid. However, it recognised that the measures of success associated with these outcomes will evolve over time. Consequently, success should be assessed in terms of progress toward the overarching objectives for each outcome, rather than the completion of specific predefined actions.

## Branding and Identity

During this reporting period, an area identified for improvement was the need to strengthen the Roadmap's branding and identity. As this responsibility sits with the Governance Board, the group evaluated options for enhancement during the face-to-face meeting in May 2024. These discussions resulted in two priority focus areas: the development of a logo and the creation of a suite of badges.

The purpose of the logo is to establish a recognisable identity for the Roadmap and projects which make a contribution to delivering its outcomes, supporting clearer visibility and engagement across the hydrology community. Following initial planning and refinement, a logo design competition was launched during the BHS webinar on 16 September 2025. Opening the competition to the wider community was intended to strengthen connections with practitioners and researchers in the hydrological space. The results of the competition and the selection of the final logo will be presented in the next annual report.

In parallel and building on the desired outcomes set out in the original UK Flood Hydrology Roadmap Report, eleven draft badge icons have been developed—one for each of the Roadmap's outcome areas. These badges are intended as a mechanism for the community to identify and showcase work that contributes to the Roadmap's actions and progress. Where appropriate, a badge may be assigned to relevant research outputs, case studies, or practical applications.
The process for how projects can utilise the badges will be confirmed and published in the next reporting year. The overarching aims of the badge system are to increase the visibility of important work, support the identification of remaining knowledge or capability gaps, and provide a means for researchers and practitioners to gain recognition for the wider value of their contributions to UK flood risk management. Through this initiative, Roadmap members hope to further strengthen community engagement, promoting the Roadmap's vision of unified and collaborative progress.

***Figure 1 – Example badges created based on the Flood Hydrology Roadmap Outcomes***



## STAG Recruitment Cycle

In Autumn 2025, the Scientific and Technical Advisory Group (STAG) undertook its first membership refresh cycle since the group's establishment. This process required coordinated planning and the careful assessment of candidates to ensure the continued breadth and depth of scientific expertise drawn from the UK hydrological community.

Maintaining a diverse and balanced membership was a key priority throughout the selection process, with attention given to ensuring representation across disciplines, organisations, and professional backgrounds. The newly appointed STAG members are expected to begin their roles in early 2026, succeeding several existing members who have generously contributed their time, knowledge, and experience to the Roadmap's ongoing progress. The outcomes of this membership refresh, including the final composition of the updated STAG, will be reported in the next annual report.

# Data & Methods

## External Technical Inputs to the Roadmap

Throughout the reporting period, both the GB and STAG groups have welcomed external presenters during their regular, online meetings to share insights into ongoing hydrological activities and to inform discussion on emerging priorities, collaborations, and future directions across the community. The below table presents an overview of these discussions.

***Table 1 – List of external presentations at Roadmap meetings held during the reporting period***

| Topic/ Presenter | Date | Description |
|---|---|---|
| Open Methods in Operational Flood Hydrology (and Hydraulics) Report – Duncan Faulkner | 07/06/2024 | STAG consultation to regard how to target effort at the report's findings. |
| EAM4 Benchmarking – Helen Hartfoot | 05/06/2025 | STAG feedback for the Environment Agency's benchmarking process developments. |
| FDRI – Matt Fry | 05/09/2025 | Exploring where FDRI (Floods & Droughts Research Infrastructure) can contribute to the Roadmap |
| FCERM Research Team Discussion – Hayley Bowman | 06/02/2025 | Discussion and updates around Probable Maximum Precipitation (PMP) and Probable Maximum Flood (PMF) work. |
| Flood Hydrology Improvements Programme (FHIP) – Selena Peters | 06/02/2025 | FHIP updates and exploring the relationship between the Roadmap and FHIP (now and in the future). |

Both of the groups are always keen to engage with the community via discussions such as these, coinciding with the foundational aims of the Roadmap itself. Those who are interested please get in touch via the email: FHRoadmap@hydrology.org.uk

# Scientific Understanding

## Exploring Future Funding & Research Needs

Both Roadmap groups provide strategic advice and influence to help shape the future of flood hydrology in the UK; however, delivering the technical work required to enact this change lies outside their remit. As such, the need to secure funding to enable this work became increasingly apparent, emerging as a recurring topic of discussion. This ultimately led to a collaborative effort involving members of both the Governance Board and STAG to address the issue.

On 6 November 2025, a workshop was held at the Environment Agency's Bristol Office, attended by Roadmap GB and STAG members alongside leading researchers from across the UK hydrology community. The workshop was supported by the Floods and Drought Research Infrastructure (UKRI). The purpose of the session was to identify research ideas to improve our understanding of flood generation processes and the drivers of hydrological change, and to investigate the validity of critical assumptions made in operational flood hydrology.

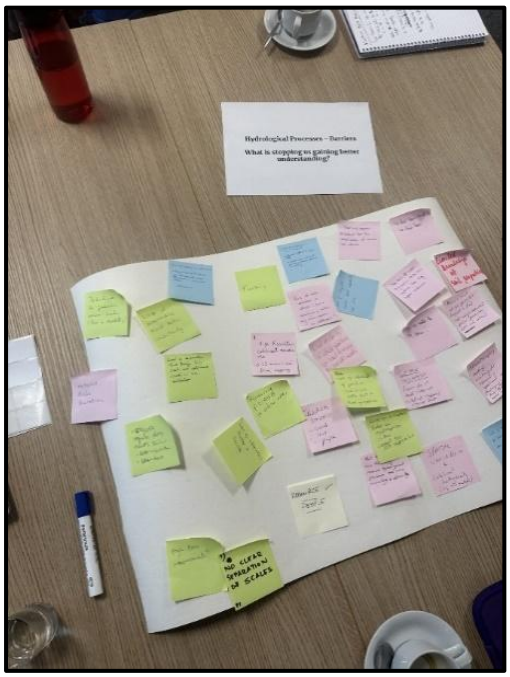
Through collaborative exercises, ideas and priorities were identified around what we don't yet understand about hydrological processes, what is holding us back from making progress and why these knowledge gaps matter, particularly in the context of a rapidly changing climate. Additionally, outline proposals were created by the workshop attendees for what a large research project or programme of work to address these challenges might look like.
The resulting ideas spanned a range of methodological and process-based questions, including:

- How best to use advances in hydrometric data and modelling to improve decision-making.
- Where machine learning can add value (and where its limits lie).
- How to bridge the gap between small-scale understanding of catchments and larger-scale drivers of change.
- How to deal with increasing volatility in hydrological drivers.
- Where our efforts should be most strategically focused.

We also discussed potential routes for funding this type of work, particularly the opportunities that come from broadening the focus beyond flooding alone and better articulating how flood hydrology research aligns with the wider water security challenges currently motivating UK PLC.

Feedback received during and after the event indicated that the meeting was highly successful, generating valuable ideas to pursue in future research funding opportunities for UK hydrology and highlighting the value of bringing the community together. This work will continue into 2026, and further updates will be provided in the next annual report.

***Photos from the Bristol research planning meeting, where members and peers explored emerging research needs and opportunities for hydrological science.***





# Communications & Engagement

The table below summarises the communications and engagement events and outputs involving the Roadmap during the reporting period.

***Table 2 – UK FHR communications and engagement events during the reporting period***

| Event | Date | Description |
|---|---|---|
| BHS Newsletter Article | May 2024 | Article by Chris Skinner on the results and reflections of the UK Hydrology Skills and Satisfaction Survey. |
| Hydrology in the 21st Century Royal Society meeting | June 2024 | Marked the 40th anniversary of BHS (British Hydrological Society). Included a number of presentations related to goals of the roadmap and a special edition of Philosophical Transactions A, which can be found here: Hydrology in the 21st century: challenges in science, to policy and practice |
| BHS Annual Symposium | 23rd Sept 2024 | Facilitated a face-to-face Governance Board–STAG session, supported networking opportunities, and enabled wider engagement with the hydrology community. |
| Floods Industry Magazine | 20th March 2025 | Promotional article in Flood Industry Magazine Issue 5 highlighting the UK Flood Hydrology Roadmap and raising awareness across the flood management sector, which can be read here: Flood Industry Issue 5. |
| BHS Webinar | 16th Sept 2025 | Presented updates on Roadmap progress, launched the concepts for badges and a logo, and provided examples of active work supporting Roadmap objectives. |

| Event | Date | Description |
|---|---|---|
| Hydro-JULES meeting at the Royal Society | Sep 2025 | STAG Chair, Linda Speight, facilitated a discussion session on behalf of the Roadmap looking at future research priorities for hydrology. |

# Financial Summary

The Collaborative Agreement between the UK Flood Hydrology Roadmap (UKFHR) partners to fund the Secretariat supporting the two governance groups has been successfully renewed for a further two-year period, covering April 2025 to April 2027.
Under this agreement, each of the four nations contributes approximately £6,125 per financial year, resulting in a total contribution of £12,250 per nation over the duration of the extension. This renewed commitment provides stability and continuity for the Secretariat function provided via AtkinsRéalis, enabling effective coordination, governance, and delivery of the Roadmap's objectives. It reflects the strong ongoing collaboration between partners and ensures the programme remains well-supported to drive forward its strategic priorities.

# Forward Look

The next reporting period is expected to bring further developments that build on the progress made across the Roadmap's governance, branding, community engagement, and technical direction. Several key areas of work initiated this year will continue into 2026, with outcomes to be detailed in the next annual report.

Progress on the Roadmap's visual identity will continue, with updates on the development and finalisation of a logo to be shared in the next reporting period. We will implement the use of Roadmap project badges, designed to recognise contributions to specific outcome areas, including the application process and guidance for their use

Efforts to coordinate a unified scientific programme, supported through collaboration between Roadmap members and the wider hydrology community, will progress throughout 2026. Ideas generated during discussions in 2025 are expected to be shaped into more concrete opportunities for research funding, strengthening the long-term direction of hydrological science for flood-related challenges.

Updates will also be provided on the first STAG membership refresh cycle, with newly appointed members beginning their roles in early 2026. Their integration into the group, alongside reflections on the transition from outgoing members, will feature in the next reporting period.

The coming year therefore represents a valuable opportunity to build on recent progress, address emerging priorities, and continue strengthening collaborative efforts across the UK. As the Roadmap evolves, it continues to lay the foundations for a more coordinated and capable future for UK flood hydrology.