UK Flood Hydrology Roadmap - Report

April 2022 to March 2024

Contents

Introduction 2
Background 2
Overview of Governance Board and Scientific & Technical Advisory Group 2
Roadmap Action Delivery 4
Communications and Engagement 6
Financial Summary 7
Forward look 8

Introduction

This report covers the progress of the UK Flood Hydrology Roadmap between 1 April 2022 and 31 March 2024.

The report begins with contextual summary of the Roadmap, covering its mission, purpose and who is involved in its delivery. A review of its performance against key activities is then included, which covers the work undertaken during this period and notable successes that have been achieved.

Communications and engagements are covered via a table listing all events that have been targeted by either the Governance Board or STAG (Scientific, Technical and Advisory Group) and the outcomes from involvement with these.
To close, the report provides a financial overview, covering expenditure and the financial contributions made by funding partners during this period.

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 UK FHR establishes 31 actions to be covered over this 25-year 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.

Overview of Governance Board and Scientific & Technical Advisory Group

Two groups provide the governance for the Roadmap delivery, a Governance Board (GB), consisting of representatives from the UK nations' governing environmental bodies and a Scientific and Technical Advisory Group (STAG), comprised of experts from across the hydrological community.

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

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 Environment Agency (EA), Natural Resources Wales (NRW), Scottish Environment Protection Agency (SEPA) and the Department for Infrastructure in Northern Ireland (DfINI). In addition to this, the Board also consists of a representative from the British Hydrological Society (BHS) and UK Research and Innovation (UKRI). This group has been identified as a key forum to build and oversee the UK nationwide 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. Current membership can be viewed here.

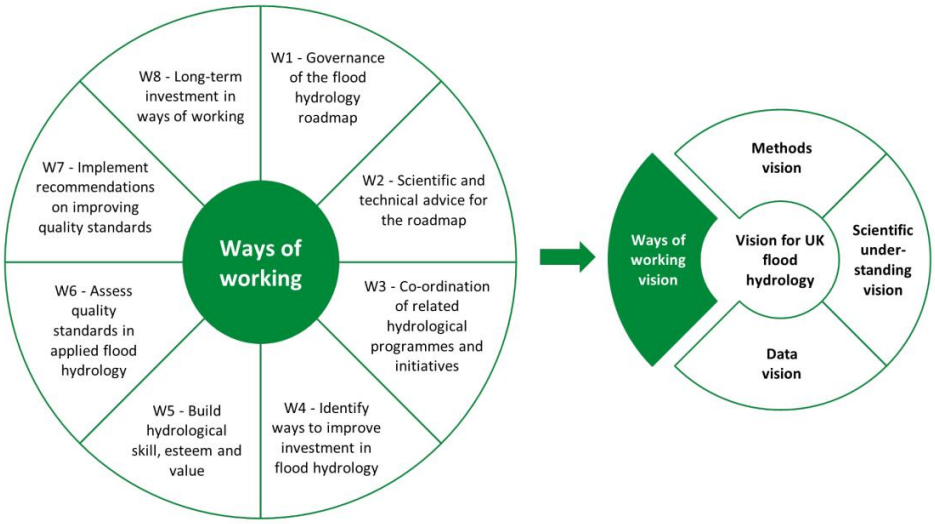
Utilising their expertise, the STAG is responsible for:

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

Roadmap Action Delivery

Eight actions have been identified to improve ways of working in UK flood hydrology, and these are summarised in Figure 1. These actions are aimed at achieving the vision for the Ways of Working theme described earlier and principally relate to how the flood hydrology community can work better together. Ways of Working actions are numbered 1 to 8 with the prefix 'W' to denote ways of working.

Figure 1 – Summary of 8 actions to improve ways of working



Although the Roadmap is still in its early stages of development, work has been carried out during this period that targeted 5 of the Roadmap's Actions. Based upon the original Flood Hydrology Roadmap report, the following actions were identified as high priority for establishing the Roadmap, acting as the basis for all following progress made over the 25-year period.

W1 - Governance of the Flood Hydrology Roadmap:
For the successful delivery of the Roadmap, it was essential to establish a governing body (the Governance Board) to oversee actions and the direction of the programme. As a UK-wide initiative, a representative from each of the UK nation's relevant authorities: the EA, SEPA, NRW and DfI – so that there is influence and involvement from each country. Additionally, a representative from UKRI was selected to represent interests in UK research/innovation, as well as a representative from BHS to represent the wider UK hydrology community.

After the Governance Board's creation in June 2021, work was conducted to form a terms of reference for the group to effectively establish their grouped and individual responsibilities. This allowed for sourcing funding for the secretariat position – an individual who can help with the coordination and management of Roadmap activities. Established responsibilities also enabled the Governance Board to then target action W2 – the formation of the Scientific, Technical and Advisory Group (STAG).

W2 - Scientific and technical advice for the roadmap:
The purpose of the Roadmap is to improve hydrological understanding in the UK, therefore it is essential to have continuous and close input from experts in the field. Thus, the STAG was created as a means to get essential advisory support on all matters and actions of the Roadmap. Interviews were conducted by the GB members to find the optimal candidates to fill STAG positions with a particular focus on covering all areas of inland flooding: fluvial, pluvial,

sewers, groundwater, and reservoirs. This ensured all ranges of hydrology were addressed by corresponding experts. A terms of reference was also created for the STAG, establishing their responsibilities.

Both the STAG and the GB will continue to push forward actions and progress for the Flood Hydrology Roadmap, with positions being subject to rotation and new recruitment cycles to enable further engagement from members of the hydrological community over the next 25 years.

W3 - Co-ordination of related hydrological programmes and initiatives:
A research catalogue was created as a means to "co-ordinate related programmes" – action W3. The poster, provides context of the Roadmap and includes a link to a form where members of the hydrological community can note down any relevant studies or work that they are conducting or have recently complete. The aim of this form is to create a record of work/studies within this space. This catalogue will provide members of the hydrological community with an overarching picture of the collective effort of hydrological research across the UK and enable the GB to determine which areas are not currently being considered or missed, so that we can consider targeted action to address any significant gaps in hydrological research for flooding. A copy of the form can be found here: UK Flood Hydrology Roadmap (UKFHR) - Research Catalogue

W5 – Build hydrological skill, esteem and value:
Prior to Roadmap's inception, there was limited data that could be used to understand the current position across the UK limiting our collective ability to target actions and benchmark progress. Thus, the UK Hydrology Skills and Satisfaction Survey was created and distributed to the community in February 2023 to collect valuable insights that can be utilised to gain an informed perspective of the current picture for flood hydrology and hydrologists.



286 applicants submitted their responses which was then used to produce:

- A Results Report that summarises the project and outcomes with reflections from hydrologists across the UK. It also provides a comprehensive presentation of the results, with breakdowns by sector, age, and gender.
- A Technical Report that details the formulation of the survey, a discussion of the results in the context of research objectives, implications for the UK Flood Hydrology Roadmap, and 12 recommendations for the hydrological community.

Further details and these two reports can be found here: Skills Survey.

W6 – Assess quality standards in applied flood hydrology:
To begin progress on this action, a discussion paper was created by the STAG which presents a summary of high level, readily available information on quality standards for hydrological studies. This report summarises the current guidance for applied flood hydrology, seeks to identify the main issues with the current standards/guidance and highlights the requirements that a standard/guidance would need to achieve to 'improve flood hydrology'. The discussion

paper highlights how the development of standards/guidance will be a large and difficult task, with the requirement of collaboration from a number of stakeholders with very different aims and aspirations, as well as sufficient funding (with estimates provided).
Initial recommendations on taking W6 forward are provided, with details on what should be included in a more detailed scoping project. However, as the paper concedes, it may be worthwhile assessing the priority of W6 in the context of the wider Roadmap as other actions may provide more timely and cost-effective benefits. A copy of this discussion paper can be found here: W6 - Quality Standards Discussion Document.

Other deliverables - STAG Satisfaction Survey:
This survey was organised by the STAG Chair to understand how satisfied the group were in regard to the Roadmap and their role in contributing to its delivery. Collating insights such as this is critical to making sure that the launch of a programme starts off on a strong foundation which can then be sustained over its duration, with internal issues being addressed early on.

The survey showed that members were unanimous that being part of the STAG was a positive experience but also highlighted that it will be essential that members carry this enthusiasm to help power forward actions, so that all of the desired outcomes can be realised. It is clear that there is a real drive from the STAG for this work to be done. The GB and STAG will consider results of survey, and any actions needed in 24/25.

Communications and Engagement

Table 2 provides a list of the various communications and engagement events that have occurred over the reporting period.

Table 1 – UK FHR communications and Engagement events before and during the reporting period

Event	Date	Description
The UK Flood Hydrology Roadmap – The Next Steps Webinar	29/06/22	This webinar presented the next steps for the recently published Flood Hydrology Roadmap. The speakers outlined how the Flood Hydrology Roadmap will move from development to implementation and how this will require efforts from the hydrological community as a whole. There was also an update on the first projects being delivered under the Flood Hydrology Roadmap via the Environment Agency's Flood Hydrology Improvement Programme (FHIP).
BHS 40th Anniversary Symposium	06/11/2023	Presentation of the Roadmap for the Flood Hydrology Community.
The Newsletter of the BHS, Circulation No. 158	11/2023	Provided an overview of the FHR and also included progressions made by both the STAG and GB.
UK Flood Hydrology Roadmap Update Webinar	26/03/2024	Updates on activities of the Roadmap governance board and advisory group over the past year, progress against the Roadmap's action plan, and the continuing role of the roadmap in our community of practice around flood hydrology.

Between October 2022 and October 2023, a Communications and Engagement Plan for the Roadmap was produced. Utilising a framework consultant, Roadmap members collaborated to define objectives, outline core messaging and develop an outline plan of activity for the 5 years.

This included a joint face-to-face workshop of the GB and STAG in July 2023 which included a focus on mapping stakeholders of the Roadmap and developing engagement objectives. The Communications and Engagement plan will be key to ensuring we reach all hydrological users and realise the Roadmap vision. A copy can be found here: UK Flood Hydrology Roadmap - Engagement and Communications Plan.

Figure 3 - Attendees at the Communications & Engagement Plan workshop in London (27th July 2023)



Financial Summary

A Collaborative Agreement was signed between the UKFHR partners to meet the costs of a Secretariat for the two governance groups and the development of the Communications & Engagement Plan.

During 2023/24 a total of £27,061.96 was allocated. Table 2 below provides a breakdown of the financial contributions provided under the Collaborative Agreement by the Roadmap's funding partners for the reporting period.

Table 2 – Collaborative Agreement funding from UKFHR partners against Roadmap actions during 2023/24

Funding Partners	EA	SEPA	NRW	DfI	Total
Funds Contributed	£6,765.49	£6,765.49	£6,765.49	£6,765.49	£27,061.96

Please note that this summary only covers the funding within the Collaborative agreement and does not cover funding by the partners or others for projects which deliver against the Roadmap actions during this reporting period.

Forward look

From September 2024 we will have a new chair of the STAG, as well as a new chair for the Governance Board in December 2024 (the Chair role for the Governance Board rotates around the respective members).

Our next report will cover the period 1st April 2024 to 31st December 2025 and will be published during the first half of 2026.