British Hydrological Society

Sixteenth National Hydrology Symposium

University of Leeds

2 – 3 September 2026

Field Trip: 4 September 2026 (am)

1. FINAL Programme Overview

The symposium runs over two days with three parallel streams per time slot: two oral sessions and one workshop. The 60-minute slot falls in the middle of Day 1; all other slots are 90 minutes. A separate opening Penman lecture and closing panel discussion bookend the programme. Due to overwhelming interest in the BHS and the symposium this year, we have a lot of sessions, workshops, presenters and posters. In the interest of the smooth running of the programme, we ask you to return to the sessions after the breaks in good time, thank you.

Presentation Guidance:

Most presentation sessions are 90-minutes long with a couple of shorter sessions on Day 1 at 60-minutes (S3&4 and WS2). There are generally 6-7 presentations allocated to the 90-minute sessions, and 4-5 presentations to the 60-minute sessions. This allows presentations to be 10 minutes long with 2-3 minutes for questions after each talk. Please ensure you keep to time otherwise you will cut into other presenter's time, thank you. A request for your slides will be sent out before the event so that presentations can be collated beforehand and sessions will run smoothly (send to **BHS2026@leeds.ac.uk**) – deadline for slides is 27 August due to the Bank Holiday just before the Symposium. If you need to make changes or are last minute with your presentations, there will be someone in the presentation room during the break before your session to upload your latest/last minute presentation. There will be a chair and co-chair assigned to each session – please follow their instructions and keep to time.

Poster Guidance:

Poster boards can accommodate A0 posters in portrait but not landscape. A1 will fit in both landscape and portrait format. Posters should be brought to the Refectory during registration on the first day or welcome coffee on the second day (where the boards are to be displayed) and attached to the boards available. There will be helpers with materials available to assist poster presenters to attach posters. While posters are displayed throughout the two days, there is a dedicated poster session in the programme on Day 1. Please can you stand by your poster during this session in order to answer any questions and engage with attendees. Please remove your poster by the afternoon coffee break on day 2, as the boards will be removed to make space for the Theatre performance in the evening.

Photography:

There will be a photographer present at the event and some images may be shared on social media. If you do not wish your image to be used, please make sure we are aware by contacting us at **BHS2026@leeds.ac.uk**

Contact:

If you have any queries related to the event, please contact the local organising committee at **BHS2026@leeds.ac.uk**

Locations:

A campus map is provided at the end of this programme for all key locations and access routes on campus.

2. FINAL Detailed Programme

Day 1 (Wednesday): 2nd Sept. 2026 — Michael Sadler Building

Time	Rupert Beckett Lecture Theatre (cap. ~340)	Michael Sadler LG10 (cap. ~100)	Michael Sadler LG19 (cap. ~67)
09:00 – 10:00	**Registration & Coffee, tea, mini pastries and fruit (poster set-up) [Refectory]**		
10:00 – 10:15	**BHS President's opening address and welcome from water@leeds**. Joe Pearce (BHS President) Joe Holden (water@leeds Director) **[Rupert Beckett LT]**		
10:15 – 11:00	**BHS Penman Keynote Lecture: Professor Jan Seibert** (Hydrology and Climate Department of Geography, University of Zurich) **[Rupert Beckett LT]**		
11:00 – 11:30	**Break: Coffee, Tea and Biscuits [Refectory]**		
11:30 – 13:00	Presentation Session 1 [90 min] **Hydrometry, sensors & the FDRI**	Presentation Session 2 [90 min] **Natural flood management — evidence & practice**	Workshop 1 [90 min] **Beyond the Black Box: Practical Flood Estimation with Hydrometric**
13:00 – 13:45	**Lunch [Refectory: 2 course cold buffet lunch with water and juice]**		
13:45 – 14:30	**Posters [Refectory]**		
14:30 – 15:30	Presentation Session 3 [60 min] **Community, policy & the future of hydrology**	Presentation Session 4 [60 min] **International & global hydrology**	Workshop 2 [60 min] **FDRI Innovation Pitch Session**
15:30 – 16:00	**Break: Coffee, Tea and Biscuits [Refectory]**		
16:00 – 17:30	Presentation Session 5 [90 min] **Machine learning & AI in hydrology**	Presentation Session 6 [90 min] **Flood estimation & frequency methods**	Workshop 3 [90 min] **Mapping Compound Water Interactions: Towards an Evidence Base for Integrated Water Management Planning**
17:30 – 19:00	**Free Time / Networking**		
19:00 – 19:30	**Drinks reception and museum exhibits [Venue Royal Armouries, Leeds]**		
19:30 – late	**Symposium Dinner [Venue Royal Armouries, Leeds]**		

Symposium Dinner details (a more detailed printed guide is available at the registration desk):
The 16th National Hydrology Symposium Dinner will be held at the Royal Armouries Museum, Armouries Drive, Leeds, LS10 1LT. The museum is around a 40-minute walk from the Michael Sadler Building or approximately 15 minutes by car or taxi. Parking is available at the Citipark Leeds Dock multi-storey car park. Guests should enter through the museum's Main Entrance, which will open for the event at 18.50.

A drinks reception will take place from 19.00–19.30 in the Asian and African Gallery on the fourth floor, where guests can explore the collection, including its exceptional 17th-century elephant armour. Guests should then make their way to the Pearl Suite on the first floor, where dinner service will begin at approximately 19.45. The three-course dinner will be free-seating, apart from one reserved table, and a pay bar will operate until 23.30. Guests with previously declared dietary requirements will be identified by event staff before service begins.

The Royal Armouries is fully accessible, with step-free access and lifts between floors. Guests walking to or from the venue are encouraged to travel in groups. In the unlikely event of an alarm, event staff will manage the evacuation and assist anyone requiring accessible evacuation arrangements. Guests should leave the venue by midnight.

Day 2 (Thursday): 3rd Sept 2025 — Michael Sadler Building

Time	Rupert Beckett Lecture Theatre (cap. ~340)	Michael Sadler LG10 (cap. ~100)	Michael Sadler LG19 (cap. ~67)
07:30 –	**Note: for those staying at the University, breakfast will be served in the refectory from 7:30am**		
08:15 – 08:45	**Arrival [Refectory, coffee, tea, mini pastries and fruit]**		
08:45 – 09:00	**Welcome Back / Announcements [Rupert Beckett LT]**		
09:00 – 10:30	Presentation Session 7 [90 min] **Rainfall-runoff modelling & model benchmarking**	Presentation Session 8 [90 min] **Climate change & hydrological extremes — droughts**	Workshop 4 [90 min] **Quantifying & Communicating Hydrometric Uncertainty - Demo and Feedback**
10:30 – 11:00	**Break: Coffee, Tea and Biscuits [Refectory]**		
11:00 – 12:30	Presentation Session 9 [90 min] **Climate change & hydrological extremes — floods**	Presentation Session 10 [90 min] **Ecohydrology, water quality & environmental hydrology**	Workshop 5 [90 min] **Machine learning for hydrology: science to practice workshop**
12:30 – 13:15	**BHS AGM [Rupert Beckett LT]**		
13:15 – 14:00	**Lunch & Posters [Refectory, 2 course cold buffet lunch with water and juice]**		
14:00 – 15:30	Presentation Session 11 [90 min] **Water resources — planning, management & policy**	Presentation Session 12 [90 min] **Early Career Hydrologist showcase: data-driven methods & tools for the next generation**	Workshop 6 [60 min] **Probabilistic Assessment of Flood Risk and Residual Uncertainty: A Discussion on Opportunities and Challenges**
15:30 – 16:00	**Break: Coffee, Tea and Biscuits [Refectory]**		
16:00 – 17:00	**Panel Discussion [Rupert Beckett LT] –** **What now? A future of UK hydrology panel discussion** Chair: Duncan Faulkner, JBA. Panel Members: Liz Lewis, University of Manchester; Jamie Hannaford, UKCEH; Anita Asadullah, Environment Agency; Louise Parry, Arup; David Mould, Milestone Environmental		
17:00 – 17:30	**Closing Remarks & Awards [Rupert Beckett LT]**		
17:30 – 18:30	**Free Time / Networking**		
18:30 – 19:30	**Evening Buffet [Refectory]** **Note: drinks can be purchased from The Terrace Bar and may be taken into the Refectory**		
19:30 – 20:30	**Theatre performance on stage in Refectory** ***"The Boxer's Guide to Climate Resilience"*** **Steve Scott-Bottoms, Vesper Hill**		

Day 3 (Friday): Field Trip Morning — 4th September 2025

Time	Broughton Sanctuary	Walking tour Leeds FAS1
7:30-	Note: for those staying at the University, breakfast will be served in the refectory from 7:30am	
08:15 – 08:45	Meet at University Steps — Coach Boarding [Pack lunch Provided]	-
08:45 – 10:00	Travel by coach to Broughton Sanctuary (~1hr10min) – [Introduction on coach]	Groups assemble at Michael Sadler LG10 at 9am for brief introduction talk from ARUP. Then divide into 4 groups, each with a guide. Followed by a leisurely walking tour of Leeds Flood Alleviation Scheme (Phase 1). 2 hrs max required.
10:15 – 11:30	Split into 2 groups: (G1) Walking visit to beaver enclosure, (G2) Transport to natural flood management initiatives.	
11:30 – 12:15	Groups swap	
12:15 – 13:00	Optional walk to Broughton Beck	-
13:00 – 13:45	Packed lunch	-
13:45 – 15:00	Return by coach to University of Leeds	-

Option 1 – Broughton Sanctuary NFM and rewilding project
Located in the grounds of Broughton Hall near Skipton, this visit will be by coach (circa 1 hour 10 mins each way). The project includes much of interest to the hydrologist, and the walking tour will take in natural flood management initiatives in the Broughton Beck catchment (a tributary of the River Aire) and a visit to the beaver enclosure (note: it is unlikely that beavers will be seen!). For further information, please check out the Nature Recovery at Broughton Sanctuary – Rewilding the Dales web pages at https://broughtonsanctuary.co.uk/explore/nature-recovery/. The visit will end with packed lunch provided (or if you prefer lunch at Utopia, the Broughton Estates' walled garden bistro but cost is not covered in the registration fee).

Numbers are restricted, and attendance will be allocated to those who have indicated interest during the registration process.

Option 2 – Leeds Flood Alleviation Scheme (FAS)
A walking tour (~2 hours) of the first phase of the River Aire scheme through Leeds City Centre. The tour will take in a range of features including traditional flood walls, permanent glazed flood defences, an innovative moveable weir (the first, and still possibly only one of its kind in the UK) and fish pass, and the "Dark Arches". The tour will start and end at the University, with an opportunity to visit the Royal Armouries museum (free entry) during the tour!

Numbers are not restricted. There will be an introductory talk in Michael Sadler LG10 from ARUP to give you some insights to the FAS design. There will be 4 guides who will take groups of 10-15 people each, or you are free to use the provided pdf guide (link) and navigate/explore yourself in your own time. Note you may finish the tour whenever is convenient to you.

Walking Tour – Participant Safety
Participants undertake the walking tour at their own risk and remain responsible for their own personal safety throughout. The tour guide is present to lead the group along the planned route but is not responsible for supervising individual participants. The tour takes place entirely within public areas and along established public paths. Participants should remain on the designated route, and take appropriate care when crossing roads and walking, particularly close to the river. Safety barriers are provided along the riverside to reduce the risk of accidental entry into the water. Participants must not climb over, pass through, or otherwise cross these barriers. Lifebuoys are positioned at regular intervals along the river and are available for emergency use. In the event of an accident or other emergency, participants should call 999 and follow the instructions of the emergency services.

3. Session Descriptions and Content

Session 1: Hydrometry, sensors & the FDRI

Covering advances in UK hydrometric monitoring, this session spans the new FDRI national observatory programme and digital platform, floodplain flow measurement using cameras and satellites, open-hardware participatory sensing, quantification and communication of hydrometric uncertainty, citizen science rainfall observation, and the day-to-day operational challenges facing Environment Agency hydrometry teams.

Slot: Day 1 · Slot 1 · 90 min · Stream 1

Chair: Lindsay Beevers

Co-chair: Kieran Khamis

ID	Presentation title	Presenting author
39	Floods and Droughts Research Infrastructure: nationally representative observatories to better understand and manage risk from hydrological extremes	FDRI Catchment Champions (Kieran Khamis)
130	Enhancing Access to UK Hydrological Data: The FDRI Digital Platform	Matthew Fry
61	(FDRI) Enabling Participatory Hydrology through Innovation and Capacity Building	Luke Tumelty
117	Measuring floodplain flows with consumer electronics and constellations of satellites!	Nick Everard
50	Quantifying and Communicating Hydrometric Uncertainty	Adam Griffin
139	An unexpected downpour in rainfall observers	Antonia MacDonald
80	Hydrometric challenges on the ground	Joe Davies

Session 2: Natural flood management — evidence & practice

Examines the evidence base for NFM across a range of UK catchments and scales. Talks address optimising leaky barrier and woodland schemes using distributed modelling, catchment-scale monitoring, the role of beaver reintroduction, and how to bridge the gap between NFM research, policy, and operational flood risk practice.

Slot: Day 1 · Slot 1 · 90 min · Stream 2

Chair: Louise Parry

ID	Presentation title	Presenting author
76	Natural Flood Management: Bridging Policy, Research, and Operational Practice	Ann Kretzschmar
26	Natural flood management optimisation for property damage reduction using a fully distributed hydrological model	Asid Ur Rehman
81	Hydrological Assessment of Multiple Natural Flood Management Interventions in Rapid-Response Catchments	Mehdi Bagheri-Gavkosh
88	Assessing the benefits of NFM interventions at scale using distributed hydrology and physical indexing	Paul Smith
68	Monitoring for NFM: A Yorkshire Case Study	Rebecca Dunstan
86	Beaver Reintroduction: Can We Expect Changes to Peak Flows, and What Drives Them?	Ben Jackson

Session 3: Community, policy & the future of hydrology

Focuses on how UK flood hydrology is organised, communicated, and delivered. Talks cover progress on the UK Flood Hydrology Roadmap and its workforce action plan, the West Yorkshire Flood Innovation Programme, the EA's integrated hydrology service, and the mental health impacts of flooding on communities.

Slot: Day 1 · Slot 2 · 60 min · Stream 1

Chair: Steph Bond

Co-chair: Ellen Broad

ID	Presentation title	Presenting author
38	Delivering the UK Flood Hydrology Roadmap	Gary Quinn

ID	Presentation title	Presenting author
127	Hydrology skills for a changing world: Progress against Action W5 of the UK Flood Hydrology Roadmap	Chris Skinner
110	Joining up Hydrology at the Environment Agency	Antoine Lebrun
40	West Yorkshire Flood Innovation Programme: An innovative collaboration for improved flood resilience	Mark Wilkinson
35	How does flooding affect the mental health of communities?	Jason Hanks

Session 4: International & global hydrology

Explores hydrology beyond UK borders. Talks range from UK river data underpinning global IPCC assessments through the ROBIN network, to 2D hydraulic modelling on the Congo River, urban flood dynamics and sanitation exposure in Nairobi, and dam safety design flood estimation in Kazakhstan.

Slot: Day 1 · Slot 2 · 60 min · Stream 2

Chair: Mark Trigg

ID	Presentation title	Presenting author
92	From source to sea, to the IPCC: the incredible journey of UK rivers in helping to understand global hydrological variability	Jamie Hannaford
7	Urban Flood Hydrodynamics and Sanitation Infrastructure Exposure During the 2024 El Niño Event in Kibera, Nairobi: A Socio-Technical Analysis	James Wallace
19	Hydrology for dam safety assessments in Kazakhstan	Duncan Faulkner
5	Century-old hydrometry meets modern 2D hydraulic modelling on the Congo River	Mark Trigg

Session 5: Machine learning & AI in hydrology

Critically examines the role of ML and AI in hydrological science and practice. Talks interrogate deep learning's epistemic limitations, the need for digitally intelligent catchments, UKCP18 hydrological model intercomparison including LSTM approaches, operational AI-based flood warning, low flow forecasting tools, and ML-assisted drought status classification.

Slot: Day 1 · Slot 3 · 90 min · Stream 1

Chair: Steven Wade

ID	Presentation title	Presenting author
9	Ever Deeper Learning and the Great Hysteresis Challenge	Keith Beven
17	Digitally Intelligent Catchments: Are They Needed?	Nick A. Chappell
147	AI for Good: An AI-based Flood Warning System for Eastbourne	Lisa Chatterjee
103	Propagation and Attribution of Climate-Driven Uncertainty in Fluvial Flood Inundation Using Reduced-Order Surrogates	Adil Siripatana
85	Integrated Digital Hydrology for Low Flow Forecasting: Advancing Water Resources Decision Making	Susana Almeida
146	Towards an Improved Drought Status System in England: Integrating Human Expertise and Machine Learning	Srinidhi Jha
10	Reimagining UK Hydrological Analysis: Using Machine Learning and AI to Develop Community-Driven Hydrology	Chris Cameron-Hann

Session 6: Flood estimation & frequency methods

A methods-focused session covering advances in UK flood frequency analysis. Topics include peak-over-threshold approaches to FEH statistical methods, ReFH2 recalibration using FEDS, ungauged catchment flood estimation, combining modelled and observed data, urbanised catchment challenges, and open-source tooling governance for operational flood hydrology.

Slot: Day 1 · Slot 3 · 90 min · Stream 2

Chair: Ellen Broad

ID	Presentation title (final)	Presenting author
69	Using a peak-over-threshold model to improve FEH statistical flood frequency estimation	Gianni Vesuviano
54	Recalibrating the ReFH2 Rainfall-Runoff Model for Observed Events using the FEDS Dataset	Rishma Chengot
58	Proposal for a new method to estimate flood frequency in ungauged (UK) catchments	Ross Woods
15	Adding modelled data to observed data in flood frequency estimation	Adam Griffin
2	Identifying the seasonal pattern between recession curves observed on an English catchment using the new hydrograph offset method	Nick Mandeville
72	Why won't the Environment Agency use my model?	Antonia MacDonald

Session 7: Rainfall-runoff modelling & model benchmarking

Explores the mathematical foundations and large-sample evaluation of rainfall-runoff models. Talks cover scaling properties of the PDM and simple models, the UK Hydro-MIP community intercomparison, climate-driven uncertainty in flood inundation using surrogate frameworks, daily simulation for flood forecasting, and a national EA model intercomparison framework.

Slot: Day 2 · Slot 4 · 90 min · Stream 1

Chair: Elizabeth Lewis

ID	Presentation title	Presenting author
83	On the mathematical scaling laws of simple rainfall-runoff models, and why they matter	Fiona Davies
102	Quantifying the mathematical personality of the Probability Distributed Model	Phil Trinh
36	The UK Hydro-MIP: A community model intercomparison project for streamflow simulation across GB	Rosanna Lane
112	How innovative use of daily simulation improved flood forecasting: lessons from catchment scale calibration	Ilona Dezelski
113	Hydrological model benchmarking- Results of the UKCP18 Intercomparison project	Elizabeth Lewis
67	Evaluating how hydrological models are made and how they perform – understanding model strengths and weaknesses for flood risk management	Helen Harfoot

Session 8: Climate change & hydrological extremes — droughts

Timed to mark the 50th anniversary of the 1976 drought, this session examines drought characteristics, monitoring, and management under climate change. Talks address 1976 storyline modelling, multi-method extreme drought assessment, the 2025 Scottish drought, stochastic hydrology in WRMP practice, alternative model structures for drought, Markov-based drought dynamics, and drought triggers for St Helena.

Slot: Day 2 · Slot 4 · 90 min · Stream 2

Chair: Lisa Chatterjee

ID	Presentation title	Presenting author
70	1976 drought storylines for water resources planning	Anna Murgatroyd
43	A multi-method assessment of extreme drought for water resources management with climate change in East Anglia	Jane Thurgood
123	Managing Drought in Scotland in a Changing Climate: Insights and Lessons learned from the 2025 Drought	Claire Tunaley
90	Delivering a well-adapted water resources system, resilient to climate change and extreme drought – stochastic hydrology and climate change impacts in practice.	Steven Wade
115	Improving the representation of droughts through the application of alternative conceptual model structures	Tom Beskeen
107	A Markov-Based Framework for Analysing Drought Dynamics Across Great Britain	Nishant Gaur
55	Developing Drought Triggers for St Helena	Miranda Foster

Session 9: Climate change & hydrological extremes — floods

Investigates future flood risk under climate change using high-resolution modelling and ensemble approaches. Talks include G2G coupled with large climate ensembles, UKCP Local projections of pluvial flood drivers including antecedent soil moisture, combined climate and land-use change impacts on water quality and flooding, weather whiplash transitions, Chilean catchment land cover change, and LoRaWAN-based flood warning systems.

Slot: Day 2 · Slot 5 · 90 min · Stream 1

Chair: Adam Griffin

ID	Presentation title (final)	Presenting author
75	Combining a national-scale grid-based hydrological model with an initial-condition climate ensemble and downscaled events for flood modelling	Alison Kay
79	Decoupling rainfall and flood risk in a changing climate: Spatial variability in pluvial flood drivers	Molly Asher
116	Impacts of climate and land-use change on water quality, floods, and droughts for catchments in Northern England	Sim Reaney
42	'Weather whiplash' past, present and future: Understanding the UK's hydrological transitions	Rachael Armitage
145	Hydrological Response of Coastal Catchments to Land Cover Change: Insights from SWAT Modelling	Rossana Escanilla-Minchel
31	Digital Smart Flood Warning Systems: Piloting LoRaWAN for Surface Water Resilience in West Yorkshire	Henry Hargreaves & Steph Bond

Session 10: Ecohydrology, water quality & environmental hydrology

Explores interactions between hydrology, ecology, and water quality. Talks address NbS for nutrient pollution in rural catchments, phosphorus risk mapping in chalk river groundwater systems, climate-driven flood risk to earthworm communities, drought responses of temperate rainforest vegetation, monsoon effects on urban groundwater quality in Nepal, and hydrological impacts of peatland drain blocking.

Slot: Day 2 · Slot 5 · 90 min · Stream 2

Chair: Miranda Foster

Co-chair: David Mould

ID	Presentation title	Presenting author
27	Quantifying current and future benefits and limitations of Nature-based Solutions for nutrient pollution management in rural catchments	Barry Hankin
105	Typologies and Risk Mapping of the Impacts of Treated Sewage-Related Phosphorus on the Groundwater-Dominated English Chalk Rivers	Keneilwe Maduo Makwati-Manyepedza
16	Modelling historical and future flooding (1970–2080) to evaluate risks to earthworm communities	Qiuyu Zhu
109	Vegetation water uptake strategies under soil water-limited conditions in a temperate rainforest in Scotland	Aline Meyer Oliveira
108	Monsoon effects on urban groundwater quality in South Asia: a case study in Pokhara, Nepal	Tim Muller
18	Investigating the hydrologic impacts of open drain blocking in grassland peat soils	Hilary Pierce

Session 11: Water resources — planning, management & policy

Addresses applied water resources challenges across the UK. Talks cover River Severn regulation, water balance modelling for the Water for Cambridge project, integrated surface-groundwater modelling for the Thames Scheme, Temporary Use Ban deployment, raw water quality as a drought resilience factor, North Kent Marshes water management, and flood resilience for Scottish distilleries.

Slot: Day 2 · Slot 6 · 90 min · Stream 1

Chair: Anna Murgatroyd

Co-chair: Geoff Darch

ID	Presentation title	Presenting author
77	River Severn regulation: challenges and opportunities	Lizzie Quarmby
60	Water for Cambridge: Use of pumping station data to inform catchment water balance discussions	Roberto Quaglia
65	Wise Use of Water- Water balances in low-lying catchments	James Fidal
133	From Hydrological Signals to Action: Deploying a Temporary Use Ban During Rapidly Escalating Drought Conditions	Aodhín McBride
20	Reframing drought resilience: the role of raw water quality	David Ocio
124	Fully integrated surface and groundwater modelling with MIKE SHE and MIKE+ for the River Thames Scheme in London	Philipp Huttner
14	Improving flood resilience to Scotland's distilleries	David Cameron

Session 12: Early Career Hydrologist showcase: data-driven methods & tools for the next generation

Showcasing early-career hydrologists working at the frontier of digital hydrology. Talks examine what ML models learn about extreme floods using XAI, global runoff elasticity controls, open-source FEH tools, next-generation sub-hourly river flow datasets (UK-Flow15v2), rainfall drop-size typologies, declining regulatory monitoring capacity, and collaborative science on intermittent chalk streams.

Slot: Day 2 · Slot 6 · 90 min · Stream 2

Chair: Amrie Singh

ID	Presentation title	Presenting author
99	Explainable AI Reveals Global Patterns and Controls of Runoff Elasticity	Pei Xue
119	UK-Flow15v2: Next steps in developing sub-hourly river flow observations for the UK	Felipe Fileni
132	Development of Rainfall Typologies Incorporating Drop Size Distributions and Their Synthetic Replication Using a Rainfall Simulator	Ruth E. Dunn
25	"We Do Our Best": Regulatory Capacity and the Decline of Freshwater Monitoring in England	Madison Wright
52	A collaborative approach towards the shared science of intermittent chalk streams	Eugene Magee

Please note: A PDF booklet of Oral/Presentation and Poster Abstracts is provided separately.

4. Workshop Descriptions and Content (all in room LG10)

Workshop 1: Beyond the Black Box: Practical Flood Estimation with Hydrometric

A practical workshop that will guide participants through complete FEH flood estimation workflows using Hydrometric, an open-source calculation engine and web platform implementing the FEH Statistical Method (2008 & 2025), rainfall-runoff models and climate change allowances. Working with real catchments, attendees will estimate QMED, form pooling groups, fit growth curves and run rainfall-runoff models. The session will highlight Hydrometric's decision tree audit trail, rule-based statistical warnings and tools for comparing analytical pathways. By the end, participants will understand how to use Hydrometric to produce transparent, reproducible and defensible flood estimates. Please bring your laptop or tablet in order to fully participate in this workshop

This workshop provides a practical introduction to Hydrometric. Participants interested in the underlying architecture, AI-assisted workflow design and open-source implementation can learn more in Session 5, Machine Learning and AI in Hydrology, through the accompanying presentation, "Reimagining UK Hydrological Analysis: Using Machine Learning and AI to Enable Community-Driven Hydrology".

Slot: Day 1 · Slot 1 · 90 min · Stream 3

Lead(s): Chris Cameron-Hann (Aegaea), Clare Winter (Celox Consulting) and Rebecca Thirkell (Aegaea)

Workshop 2: FDRI Innovation Pitch Session

This interactive session invites participants to shape the future of hydrological innovation by exploring the infrastructure, services and support needed to turn ambitious ideas into reality. Contributors will deliver rapid, one-minute PICO-style flash presentations introducing innovative use cases, before continuing conversations alongside their posters to encourage discussion, feedback and networking. Rather than showcasing completed research, the session focuses on identifying barriers, shared needs and opportunities for collaboration.

Slot: Day 1 · Slot 2 · 60 min · Stream 3

Lead(s): Luke Tumelty - Imperial College

Workshop 3: Mapping Compound Water Interactions: Towards an Evidence Base for Integrated Water Management Planning

Greater Manchester faces a complex and interconnected set of water challenges, including fluvial and surface water flooding, combined sewer overflows, water quality degradation, and drought risk. Managing these effectively requires understanding not just individual processes, but how they interact, amplify one another, and propagate risk across system boundaries. This workshop presents an emerging physical process framework, developed collaboratively with the Greater Manchester Combined Authority, the Environment Agency, and United Utilities, to underpin the region's Integrated Water Management Plan. The framework comprises catchment-city process maps covering various water system components, from catchment hydrology and geomorphology to urban drainage, ecohydrology, and water supply, along with a set of compound interaction chains derived from real flood events in Greater Manchester.

Participants will be invited to interrogate this framework by identifying missing process interactions, feedback mechanisms, and potential interventions at different stages of the system. Contributions from practitioners, hydrologists, and researchers across disciplines are especially welcome. The outputs will directly inform the development of a digital twin scoping framework for Greater Manchester. They will be shared as an open methodology for other regions to develop their own integrated water management plan.

Slot: Day 1 · Slot 3 · 90 min · Stream 3

Lead(s): Dr Asid Ur Rehman – Research Associate, University of Manchester; Dr Elizabeth Lewis – Senior Lecturer, University of Manchester

Workshop 4: Quantifying & Communicating Hydrometric Uncertainty - Demo and Feedback

As part of the Flood Hydrology Improvement Programme, UKCEH are leading a project on implementing uncertainty metrics and visuals for the England hydrometric network: flow, level and rainfall. We have been developing potential ways of presenting different sources and sizes of uncertainty, and would love feedback through an interactive session. Tell us how you use uncertainty in your work, what your clients/colleagues need to see, and whether the tools/maps we've developed will meet those needs. There will be representatives from UKCEH and the Environment Agency to answer questions about the project, which will be published in 2027.

Slot: Day 2 · Slot 1 · 90 min · Stream 3

Lead(s): Adam Griffin, Gianni Vesuviano, Carl Townley, Sara Alexander

Workshop 5: Machine learning for hydrology: science to practice workshop

Machine Learning for hydrology: from science to practice will bring together researchers, practitioners, agencies, regulators, and water-sector users to examine how machine learning can move from promising research to trustworthy operational use. Through short talks and structured group activities, participants will identify adoption barriers, discuss what good evaluation looks like in practice, and co-produce a practical checklist for responsible machine learning use in hydrology. The session will focus on trust, uncertainty, explainability, robustness, extremes, non-stationarity, governance, and stakeholder communication. This workshop is open to all, and a background in machine learning is not required.

Slot: Day 2 · Slot 2 · 90 min · Stream 3

Lead(s): Emma Ford - University of Oxford; Tracy Haxton - Wallingford HydroSolutions; Adam Parkes - Jacobs; Helen Harfoot - Environment Agency; Jiren Xu - University of Glasgow; Linda Speight - University of Oxford; Andrew Taylor - Wallingford HydroSolutions;

Workshop 6: Probabilistic Assessment of Flood Risk and Residual Uncertainty: A Discussion on Opportunities and Challenges

Flood risk is typically communicated through single, deterministic outputs, despite the substantial uncertainties inherent in the underlying models and data. This 60-minute interactive session opens up a discussion on the probabilistic assessment of flood risk and residual uncertainty, exploring its potential to inform decision-making and the challenges associated with its implementation. Together, we aim to identify the practical barriers to wider adoption and the concrete opportunities for progress. We invite regulators, practitioners, and researchers to help us tackle a shared challenge: how to assess and communicate flood risk in a way that is more rigorous, transparent, and genuinely useful for decision-making.

Slot: Day 2 · Slot 3 · 60 min · Stream 3

Lead(s): Nina Fischer, Institute of Infrastructure and Environment, School of Engineering, University of Edinburgh

5. List of Posters (all in Refectory)

ID	Poster title	Poster author/s
11	Intensity–Duration–Frequency (IDF) Design Rainfall Framework for Turkey: A Practical Tool for Engineering Applications	Fatih TOSUNOGLU and Thomas Rodding KJELDSEN
12	Non-stationary Modelling of Annual Maximum Flows in Türkiye: Integrating Physically Based GAMLSS Models with Climate Change Projections	Fatih TOSUNOGLU, İsmail YÜCEL, Ercan KAHYA, Osman Furkan TOKGÖZ and Berkin GÜMÜŞ
13	Private Water Supply resilience in rural Scotland	Jamie Ledingham
21	Assessing uncertainties in a cascading climate-flood-finance model chain	Qiuyu Zhu, Mark Trigg, Polly Foster, Emily Estcourt, David Wilkinson
22	When and where are abstractions and wastewater discharges crucial for streamflow modelling? Insights from large sample analysis and hydrological modelling in England	Yanchen Zheng, Gemma Coxon, Francesca Pianosi, Ross Woods, Mostaquimur Rahman, Laura Devitt, Ponnambalam Rameshwaran, Nicholas Howden
23	Toward a National Understanding of River Chemistry: Analyzing Water Quality Baselines and Controls across Great Britain from the new CAMELS-GB-Chem dataset	Nicholas Howden, Yanchen Zheng, Francesca Pianosi, Ross Woods, Gemma Coxon, Penny Johnes
28	Impacts of meteorological droughts on groundwater resources across Europe	Aimee Lenthall; Shams Rahman
30	Understanding and Modelling Drought-to-Flood Transitions in Great Britain	V. Kington, F. Pianosi, L. Devitt, G. Coxon, C. Hutton
32	A parsimonious approach to integrating reservoir operations in large-sample hydrological modelling across Great Britain	Z. Mei, Y. Zheng, G. Coxon, F. Pianosi
33	Modelling Nature Based Solutions using 2D hydraulic models: the challenge of estimating hydrological inputs.	Rozy Shepherd
34	Automated Land Cover Classification for Hydrological Modelling	Brice Richardson
37	Designing a real-time whole system monitoring approach to better understand the hydrological cycle during floods and droughts: the River Chess	Kate Heppell, Denise Pallett, James Sorensen
41	Overview and insights from the Flood Hydrology Improvement Programme	Sarah Bazley, Anita Asadullah, Selena Peters
45	The Upper Severn floods and droughts observatory: science priorities and monitoring network design	Kieran Khamis, Jade Hatton, Laura Holliday, Catherine Wilson
48	Hydrological modelling and analysis for assessing SSSI flow compliance.	Katie Russell
49	Developing a Gauge–Radar Merged Precipitation Dataset (1 hour and 1 km) for Great Britain: GRaD-GB (1H1K)	Xiaobin Qiu, Amy C. Green, Stephen Blenkinsop, and Hayley J. Fowler
51	National River Flow Archive: The UK's Focal Point for Hydrometric Data	David Crowhurst, Gayatri Suman, Stephen Turner, Isabella Tindall, Jamie Hannaford
53	Beyond UKCP18: River flow changes from a large initial-condition climate ensemble for the UK	Wilson Chan, Nathan Missault, Rosanna Lane, Amulya Chevuturi, Alison Kay, Rachael Armitage, Eugene Magee, Hadush Meresa, Adam Griffin, Pallavi Goswami, Jamie Hannaford
56	Twenty years of Rapid Response Catchments; time for a change?	Vicky Shackle and Oliver Francis
57	Flood peak reduction from temperate rainforest restoration.	George Porton, Simon Webb, Dominick Spracklen, Tom Willis, Steph Bond
59	Water for Cambridge: How stakeholder engagement shaped feasible optioneering solutions	Yvonne Riley & Jennifer Murphy
63	Characterising Global Hydrological Extremes and Transitions	Jessica Dimond, Lindsay Beevers, Simon Moulds, Vasily Demyanov, Sandhya Patidar
66	Prolonged Dry Weather in the North East of England in 2025	Vicky Crichton and Rachel Merrix
71	Exploring uncertainty in flood risk estimates using low-complexity modelling	L. Brusasco, R. Woods, R. Lamb, F. Pianosi
74	Hydrogen Electrolysis and Global Clean Water Supply: Assessing the Hydrological Implications of a Green Hydrogen Economy	Wathsala Rathnayake
78	Experiences in sense checking in flood hydrology	Heather Forbes
82	A standardised groundwater recharge index to aid water resources planning under climate change	Rachel Pugh, Anna Murgatroyd, Jim Hall
84	Automated HEC-RAS Monte Carlo Integration (AutoRamtin)	Ramtin Sabeti; Abdalaziz Hamdan, Thomas Kjeldsen; Ioanna Stamataki
87	Exploring Machine Learning methods for the estimation of daily flows in - catchments	Andy Taylor & Tracey Haxton
89	Resilience to Flooding in Wilayat Al-Seeb, Oman, Using Hydraulic Modelling and An Agent-Based Model of Community Response	Omer Al-Kaabi; Prof. Simon Mathias; Prof. Sim Reaney; Dr. Nima Gerami

ID	Poster title	Poster author/s
91	The hydrology of Strategic Resource Options in England and Wales: Water resources, water quality and consenting challenges on our major reservoir projects.	Steven Wade, Charles Malcolm, Claire Hollingworth and Stuart Smith
93	The role of hydrology in international climate finance: How hydrological insights are influencing the inception and design of global climate action projects.	Steven Wade, Sam Leader, Susana Almeida and Ben Smith
95	Trends in High and Low Flows Across the UK: Evidence from Long-Term Streamflow Reconstructions	Pallavi Goswami, Wilson Chan, Amulya Chevuturi, Jamie Hannaford
96	Field-based Quantification of the effectiveness of offline ponds	MEDHA, Vassilis GLENIS, Claire WALSH
97	Strengthening Water Resources Hydrology: A community led approach to building skills and capability	Emma Cross, Sally Smith, John Waddingham, Rachel Merrix and Andy Quinn
98	Transforming River Source Information through interactive digital tools	Jess Barnes, Emma Cross, Simon Parry, Jamie Randall
101	Community Engagement within Natural Flood Management	Esme Callander
104	The Upper Tweed: A Whole-System Observatory for Hydrological Extremes	"Lindsay Beevers(1), Andrew Black(2), Laura Holliday(3), Simon Moulds(4) 1.
106	INCREASING THE DIRECT MEASUREMENT OF FLOOD FLOWS	Andrew Black, Nick Everard, Ali Rudd, Simon Moulds, Kirstie Murphy, Louise Ander, Anna Rose Klaptocz
114	Multi-Decadal Trends in Soil-Moisture Drydown Properties	Ffion Joughin Humphreys, Ross Wood, Miguel Rico Ramirez, Rafael Rosolem
118	Data-Rich Catchment Networks – the need for continuous, high frequency and long-term observations	David Mindham
121	Integrated Water Balance Modeling - Sustainable and Climate-Adapted Water Management in the Borken Catchment Area	Philipp Huttner, Zoltan Trabak, Maximilian Winderl, Zdenek Hosek
122	High resolution modelling of groundwater recharge with MIKE SHE	Philipp Huttner
125	Innovation in the NCEA - Autosalt flow instrument	Dan Jackson, Hydrometry Specialist, Environment Agency
126	What Insights Do We Gain From Applying Deep-Learning to a Large-Sample Groundwater Level Dataset Across England?	Qidong Fang, Shams Rahman, Thorsten Wagener, Francesca Pianosi
129	Can Direct Rainfall Hydraulic Models Represent Hydrological Processes in Floods? Lessons Learnt from UK Applications	John Dudley
131	Towards improved flood early-warning coverage in England using machine learning	Anna Lo Jacomo, Katie Pearson, Adam Parkes
135	Persistent Drought & Water Supply System Risk in a Changing Climate	Cerith Morgan, Stephen Blenkinsop, Stephen Birkinshaw, Manuel Herrera, Jaime Amezaga, Beverley Pixton, Richard Blackwell
137	Understanding fluvial floods in groundwater-dominated catchments	Helen Harfoot, Justin Sheffield, Christopher Jackson and Sean Longfield
138	The 1976 Drought Revisited: 50 years on, does it remain the benchmark?	Steve Turner, Rachael Armitage, Lucy Barker, Jamie Hannaford + NHMP Team
140	Using natural tracers to investigate and model catchment scale natural flood management: insights from the Eddleston Water project	Dr Leo Peskett, Ms Sarah Collins, Dr Andrew Black, Prof Alan MacDonald, Prof Kate Heal, Dr Chris Jackson, Dr Andy Young
141	Tracking hydrological response to woodland creation in an upland catchment.	Robyn Wrigley, Felicity Monger, Dominick Spracklen
143	Assessing the Impact of Wild Camping on Water Quality in the English Lake District	Christopher Stringer, Graham Rush, Martin Pritchard, Jenna Sutherland, Anthony Smith, Sebastian Budniak, Joseph Russell
144	Combining Citizen Science with Environment Agency Data to Monitor Intermittent Streams	Mike Summers, Ben Ball, Paula Dobin, Rob Grew, Kelly Haynes
150	Petrichor: A Python Workflow for Processing Cosmic-Ray Neutron Sensing Data into Site-Scale Soil Moisture	Ming Guo

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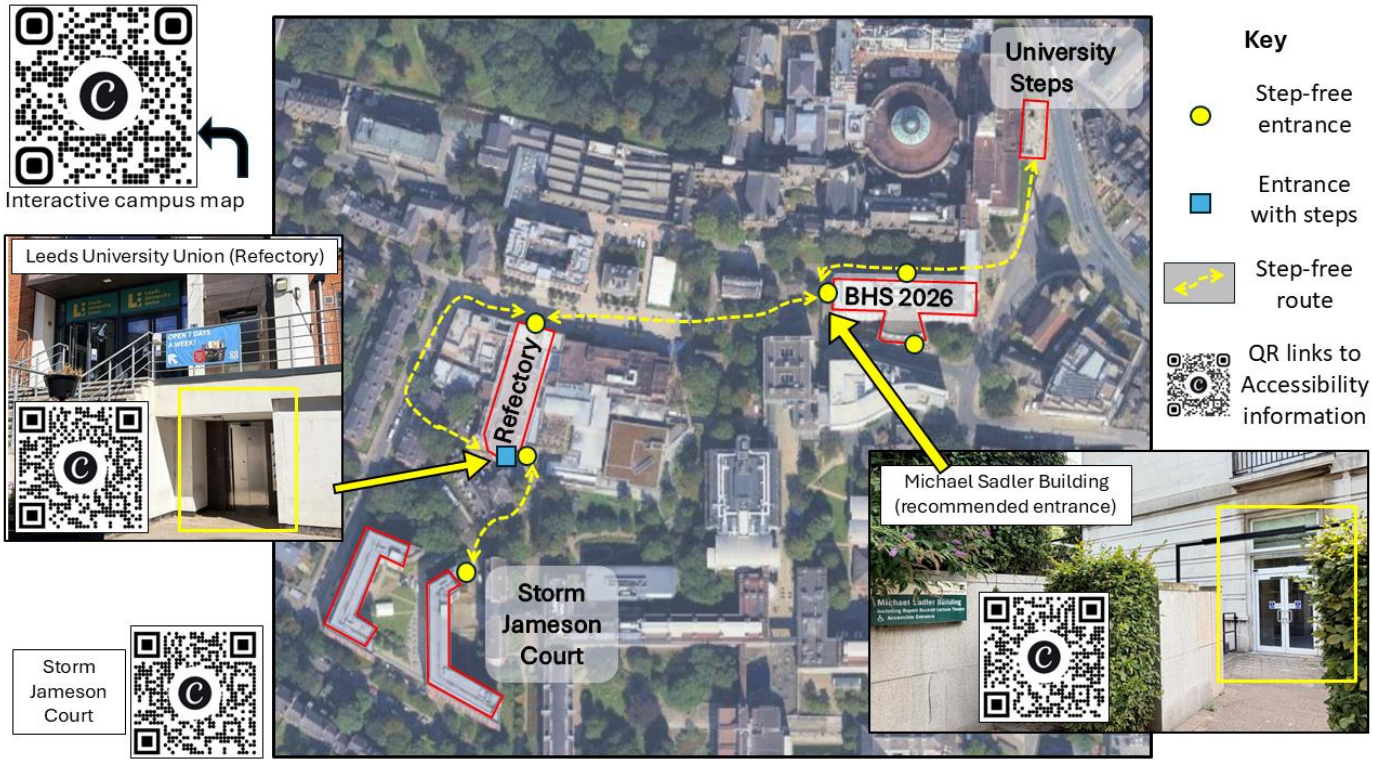
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Barney N. Austin, PhD, PE, Vice President, Hazen and Sawyer

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Will McBain, UKIMEA Resilience and Adaptation Leader, Flood and Coast

7. Campus Map


Interactive campus map
Leeds University Union (Refectory)
University Steps
BHS 2026
Refectory
Storm Jameson Court
Storm Jameson Court
Michael Sadler Building (recommended entrance)
Key
Step-free entrance
Entrance with steps
Step-free route
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