

President's Perspective

In 2019 many advocacy groups, local councils and some professional bodies such as CIWEM, declared that we face a 'climate and ecological emergency', demanding new thinking and action (stories.ciwem.org/climateemergency). As hydrologists, we have a part to play in delivering the new science and engineering solutions.

We know that '...the impacts [of climate changes] on people will be felt mainly through water, driven by shifts in regional weather patterns, particularly rainfall and extreme events...'; to quote Lord Nicholas Stern's seminal text on the Economics of Climate Change.

We are equally aware that the dramatic decline in wildlife over the last 30 years, particularly in the humid tropics, relates in part to habitat loss from deforestation and urbanisation, and from agricultural intensification with its unintended impacts on soil and water quality. Scientific investigation, engineering practice and hydrological education all have a fundamental role in reducing the risks to people and the natural world from the knock-on effects of these changes for flooding, water insecurity, and health. The need for hydrologists to come together to work on these grand challenges for a positive impact on society has never been greater.

Our National Symposium

With your support, the three-days of the 14th BHS National Symposium (BHS2020) from 8-10 September will focus on the ways that we can contribute new science and engineering practice to address these challenges. The programme revolves around five cross-cutting themes, which came out of the 17 session

proposals contributed by the BHS community. The themes are: Future hydrology, Floods & droughts, Natural flood management & partnership working, Ecohydrology & water quality and International hydrology. Submission of individual contributions to the proposed sessions within these themes are now invited: see

<https://www.lancaster.ac.uk/bhs2020>

We welcome creative presentations (e.g., digital or physical demonstrations) as well as oral and poster presentations. Do come to 'showcase' your recent activities and network with the broad BHS community of practitioners and academics. The programme includes a range of networking opportunities, including field visits in the Lake District.

Attendance costs have been kept to a minimum to encourage wide participation in this key networking event of the UK water calendar. On-line registration is now open.



The venue : The George Fox building and B&B accommodation.



While the symposium is the place to share your latest work, the BHS community and wider UK society have been making significant progress with these grand challenges over recent months:

Future hydrology

In December, new visions and techniques for hydrology arising from the 13th BHS National Symposium appeared in our journal *Hydrology Research* (iwaponline.com/hr/issue/50/6) and a BHS Working Group led by Prof Keith Beven FRS published an invited commentary on future observational needs in *Hydrological Processes* (doi.org/10.1002/hyp.13622).

Floods & droughts

The Natural Environment Research Council (part of UKRI) funded a 5-year research programme on 'Flooding from Intense Rainfall' from 2012–2019. Some of the advances in our understanding and forecasting of convective events was presented at the Royal Society on 3 February (royalsociety.org/science-events-and-lectures/2020/02/rainfall-extremes), and will be published in *Philosophical Transactions of the Royal Society A*.

There has been significant progress by the practitioner community. In November, Water UK announced that from April 2020, new rules will make it easier for water companies to take on responsibility for maintaining new Sustainable Urban Drainage systems (SuDs: www.water.org.uk/blog-post/new-rules-on-sustainable-drainage-will-help-prevent-pollution-and-tackle-climate-change). Water practitioners are keenly awaiting publication of the Government's

National Infrastructure Strategy that will include measures to achieve net zero emissions by 2050. In December, the water companies, working with Ricardo and Mott MacDonald, took a lead by announcing a commitment to achieve carbon neutrality by 2030 across their industry. Their action plan is to be published in March 2020, followed by a detailed report in the summer.

Natural flood management (NFM) & partnership working

One of the cornerstones of CIWEM's climate declaration is for technical experts to work more closely with wider society to build greater trust and delivery, especially with those in flood-affected communities. This leads on from their policy work last April on 'Climate Resilience and Extreme Risks' (stories.ciwem.org/climateresilience). Our regional BHS meetings also demonstrate the importance of partnerships between industry and academia: iwe have just had the meeting on NFM by BHS SE Region (6 Feb) and Uncertainty in Flood Peak Estimation by BHS Pennines Region follows on 27 Feb)

Ecohydrology & water quality

Both the Agriculture Bill and the Environment Bill returned to Parliament in January. The Agriculture Bill, in the words of the minister, aims to deliver 'a future where farmers are properly supported to farm more innovatively and protect the environment'. The mechanism for this is the anticipated Environmental Land Management scheme (ELMs). This may include support for on-farm interventions that reduce flood hazard and cut the loss of agrochemicals and

bio-contaminants to watercourses, while maintaining food production systems.

The design of these interventions and assessment of their efficacy requires considerable technical input from the BHS community. Indeed, in January CIWEM highlighted that if extensive tree planting to help meet our carbon targets is to deliver its full potential, it needs to consider a wider range of potential benefits including habitat creation and flood mitigation (www.ciwem.org/news/woodland-creation-the-right-way). The Environment Bill promises to provide a way to assess the 'environmental gain' of the supported interventions.

International hydrology

Developing countries, facing serious water-related problems, are benefiting from the technical expertise of UK consultancies and cutting-edge UK research. Substantial support for this research continues via the UK's Global Challenges Research Fund (GCRF), so BHS researchers are encouraged to contribute (www.ukri.org/research/global-challenges-research-fund). The Centre for Ecology & Hydrology (now UKCEH) demonstrate great leadership in such international initiatives and I am sure will continue to do so following their move from the UKRI family to a non-for-profit company on 2 December. Many of you will be waiting to hear of the outcome of your abstract submissions to EGU2020: I wish you all success and hope that there will be a strong UK presence.

Returning to UK-focused matters, I would like to highlight that entry for this year's Institution of Civil Engineers' Chris Binnie Award for Sustainable Water Management opened on 1 February – find more details of how to enter at www.ice.org.uk/news-and-insight/latest-ice-news/ice-entries-for-chris-binnie-award-open.

Lastly, I should like personally to thank Dr Ian Littlewood for his dedicated work for the Society as Honorary Treasurer from Sept 2017 to Oct 2019, overlapping with my role as President Elect. Ian sought ways to grow our income and make it go further, including the potential cost savings gained from moving to a digital-only version of Circulation. The BHS Main Committee, having discussed this idea, have concluded that a paper-copy of Circulation is of considerable benefit to many of our members and so should be continued. All elements of our income and expenditure do however remain under regular review to ensure that resources are used most effectively for your benefit.

*Nick Chappell
President
February 2020*



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***No.144
February 2020***

The NEWSLETTER OF THE BRITISH HYDROLOGICAL SOCIETY