

Water Challenges in a Changing World

NOVEMBER NEWSLETTER

Welcome to the November edition of the Water Challenges theme newsletter!

This month has been exceptionally busy, as we held 3 fantastic Water Seminar Series talks. We have recordings available from the two following talks:

Dr Elizabeth Dingle - **Evolving Flood Topographies: River – Related Hazards Downstream of the Himalaya**

Dr Philip Riris - **Long-term population resilience: an archaeological perspective**

Please drop Suman (s.hira@bham.ac.uk) an email if you would like the links to these recordings shared with you.



CHRISTMAS GET TOGETHER

All members of the water theme are warmly invited to join us at our end of year Christmas get together that is taking place on the 17th of December at Elm House in Room G05 from 12pm to 4pm.



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PAPER PUBLISHED IN NATURE WATER

We are pleased to announce the publication of the paper '**Seven strategies to leverage water for peace and foster sustainable and just water management for all**' in Nature Water. This paper was written as a follow on from the exciting discussions that took place at our World Water Day 2024 event.

Water solutions across different scales can prevent or mitigate conflict if existing obstacles to their implementation can be overcome so that water can act as catalyst to bring people and communities together to co-create collective solutions for peace.

For the full article, please see here: [Seven strategies to leverage water for peace and foster sustainable and just water management for all | Nature Water](#)

WORKSHOP IN JANUARY 2025

We are now offering a 50% discount to students from low- and middle-income countries to attend our Environmental Micro and Nanoplastic Identification and Characterisation workshop. If you know of any students who wanted to attend but were unable to due to funding and they meet the discount requirements, please let them know and pass on their details to Suman s.hira@bham.ac.uk



Environmental Micro- and Nanoplastic Identification and Characterisation Workshop

27 - 31 January 2025
Elm House, University of Birmingham

In partnership with the Birmingham Institute for Sustainability and Climate Action and the Institute for Global Innovation

We train
We activate

birmingham.ac.uk



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PROF. DR. CHRISTIAN LAFORSCH VISIT

[Prof. Dr. Christian Laforsch](#) from the University of Bayreuth in Germany visited the University of Birmingham over 2 days, where he gave an insightful talk on **'Microplastics in the Environment'**. Prof Laforsch was then given a tour of our labs, and we also held a symposium for students to showcase their research and receive valuable feedback. This visit was long overdue with this visit first being organised almost one year ago to the day. Fortunately, even though we had snow again on this visit, Prof Laforsch made it to UoB and we had an amazing 2 days with him.



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CALL FOR ABSTRACTS

We would like to draw your attention to the EGU 2025 session on Greenhouse gas dynamics and fluxes in aquatic ecosystems

Session BG4.6: Greenhouse gas dynamics and fluxes in aquatic ecosystems

Convener: Zhifeng Yan **Co-conveners:** Sivakiruthika

Balathandayuthabani, Sophie Comer-Warner, Michael Peacock, Xinghui Xia

Our capacity to estimate regional and global budgets of greenhouse gases (GHG, including CO₂, CH₄ and N₂O) from aquatic ecosystems has been significantly improved during the past decade, thanks to the substantial increase in field measurements. However, global estimates of these fluxes remain highly uncertain. Moreover, compared with terrestrial ecosystems, the field of aquatic GHG research is still young and the mechanisms behind the spatiotemporal patterns and variability of GHG concentrations and fluxes in aquatic ecosystems are not sufficiently understood, constraining model development. Therefore, to improve our estimations and understanding of regional and global GHG budgets from aquatic ecosystems, this session welcomes contributions on e.g.:

- 1) Field observations of GHG dynamics and fluxes in aquatic ecosystems, both freshwater and marine systems.
- 2) Experiments revealing physicochemical or biological processes or factors of relevance for GHG production, consumption, transport, emission, or uptake.
- 3) Model development or simulation efforts to estimate GHG dynamics and fluxes across different spatial and temporal scales along the aquatic continuum.

Contributions providing additional perspectives of relevance for aquatic GHG cycling and fluxes are also of interest.

For full details see: [Session BG4.6 \(copernicus.org\)](https://www.copernicus.org/conferences/egu2025/session/BG4.6)

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WATER THEME PUBLICATIONS

Yasmin, T., Clark, J., Sambrook Smith, G., Daham, A., Nicholas, A. and Gasparotto, A., 2024. Towards sustainable governance of freshwater sand–A resource regime approach. *Earth System Governance*, 22, p.100228. <https://doi.org/10.1016/j.esg.2024.100228>

Soltanighias T., Umar A., Abdullahi M., Abou-Elwafa Abdallah M., Orsini L. Combined Toxicity of Perfluoroalkyl substances and Microplastics on the sentinel species *Daphnia magna*: Implications for Freshwater Ecosystems (2024) *Environmental Pollution*: 363: 125133

Gigl F., Abdullahi M., Barnard M., Hollert H., **Orsini L.** Interactions Between Phenanthrene Exposure and Historical Chemical Stress: Implications for Fitness and Ecological Resilience of the sentinel species *Daphnia magna* (2024) *Science of the Total Environment* 949: 174963

Escher B., Ahlheim J., Böhme A., Borchardt D., Brack W., Braun G., Colbourne J.K., Dann J.P., Gessner J., Jahnke A., König M., Klüver N., Krauss M., Lee J., Li X., Lips S., Orsini L., Rinke K., Schmitt-Jansen M., Scholz S., Schulze T., Spahr S., Ulrich N., Weitere, M. Varga E. (2024) Mixtures of organic micropollutants exacerbated in vitro neurotoxicity of prymnesins and contributed to aquatic toxicity during a toxic algal bloom *Nature Water* 2: 889–898

Bertagnoli, A., Luce, C.H., van Kampen, R., **Schneidewind, U.**, van Berkel, M., Tranmer, A.W., Vandersteen, G., **Krause, S.**, Tonina, D. (2024): iFLOW: a framework and GUI to quantify effective thermal diffusivity and advection in permeable materials from temperature time series. *Water Resources Research*, doi: 10.1029/2024WR037370.

Sophie Comer - Warner - Contributions of agricultural ditches to N₂O emissions and how these are underestimated in IPCC accounting - [IPCC Emission Factor Overestimates N₂O Emissions from Agricultural Ditches | Environmental Science & Technology \(acs.org\)](#)

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Lukas Hallberg – stream N and C Supply and demand -

<https://agupubs.onlinelibrary.wiley.com/doi/10.1029/2024JG008308>

Joshua Larsen -

<https://www.sciencedirect.com/science/article/pii/S2351989424005080>

UPCOMING GRANTS

[ITPOF – R&D Award](#)

Deadline to apply: 02/12/2024

Award amount: £60k

The ITOPF R&D Award is open to any reputable R&D establishment or other organisation worldwide intending to fund a candidate (individual or project team) to undertake research. Applications are invited from all academic disciplines, although preference will be given to those with an applied scientific focus, such as marine biology, chemistry, ecology, physics, engineering and economics.

[Japan Fund for Global Environment \(link2\)](#)

Deadline to apply: 02/12/2024

Award amount: JPY 2-12M

JFGE grants provide financial and other support for environmental conservation activities conducted by private organizations. The Fund aims to contribute to global environmental conservation by helping organizations plan, implement, and achieve results in accordance with goals set in advance.

[Office of Oceanic and Atmospheric Research \(OAR\) - Climate Program Office FY2025 Atmospheric Chemistry, Carbon Cycle, and Climate \(AC4\) Program](#)

Deadline to apply: 09/12/2024

Award Amount \$100-250k

CPO research/science programs and activities meet urgent climate challenges, and incubate innovative advancements in Earth system and social sciences; support world-class assessment reports, including the National Climate Assessment; enhance and expand NOAA's capabilities for integrated information systems for drought, heat and floods to deliver timely science-based information that can reduce the impacts and costs of these climate-driven challenges; educate and grow the next generation of experts in support of NOAA's climate mission.

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[EPSRC/NERC – Sustainable Industrial Futures](#)

Deadline to apply: 11/12/2024

Award amount: £26M

This is a £26 million (80% full economic cost (FEC)) seven-year, flagship investment focused on tackling cross-sectoral research challenges rooted in excellent, leading-edge engineering, physical and environmental sciences and transdisciplinary approaches to enable the transition of UK industrial manufacturing processes and operations to net zero.

[PADI Foundation – PADI Grants](#)

Deadline to apply: 15/01/2024

Award amount: \$12k

The PADI FOUNDATION encourages and supports research and education related to aquatic environments. The Foundation will fund and assist worthwhile projects that either: 1) Enrich mankind's understanding of aquatic environments and encourage sensitivity to and protection of ecosystems. 2) Increase understanding of sport diving physics and physiology that will benefit the general diving public and add to the scientific understanding of man's relationship and ability to survive in the underwater environment. 3) Improve understanding of, and response to, hazards to humans and ecosystems related to climate change in coastal and ocean environments.

[Volvo – Volvo Environmental Prize](#)

Deadline to apply: 20/01/2025

Award amount: SEK 1.5M (USD 142k)

The Volvo Environment Prize aims to recognize and support outstanding scientific achievements that contribute significantly to environmental stewardship and sustainability. The Prize is awarded annually and consists of a hand-crafted diploma, a glass sculpture, and a cash award of SEK 1.5 million (approximately Euro 135,000 or USD 142,000). The award ceremony is held in Stockholm or Gothenburg, Sweden, in the fall of each year.

[NERC – Pushing the frontiers of environmental research: January 2025](#)

Deadline to apply: 21/01/2025

Award amount: £950k

Apply for funding to pursue an ambitious, high risk and high reward curiosity-driven project in environmental research.

[Air and Waste Management Association – Student Scholarships](#)

Deadline to apply: 22/01/2025

Award Amount: Tuition fees – varying

Each year, the Air & Waste Management Association (A&WMA) recognizes outstanding students who are pursuing courses of study and research leading to careers in air quality, waste management, environmental management / policy / law, and sustainability with respect to air quality and waste management.

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[IISD – Global Framework for Chemicals \(GFC\) Fund](#)

Deadline to apply: 31/01/2025

Award amount: \$800k

Eligible projects must focus on green and sustainable solutions and channel actions to prevent and minimize harm from chemicals and waste in developing countries.

[HORIZON-MISS-2024-CIT-01 — Changing urban spaces and mindsets to accelerate the transition to climate neutrality](#)

Deadline to apply: 11/02/2025

Award amount: €15M

This supports proposals that set out a credible pathway to urban climate neutrality and enable cities to roll out their climate action plans and achieve climate neutrality by 2030. Funding is available under the following topics.

[AGU – Horton Research Grant](#)

Deadline to apply: 27/03//2025

Award amount: \$11k

The Horton Research Grant is awarded to up to three Ph.D. students studying hydrology, water resources, or a closely related field each year and is made possible through the generosity of the Robert E. Horton Fund for Hydrologic Research. The purpose of the award is to promote excellence by encouraging the next generation of professionals in the hydrological sciences.

[Blaustein Center for Scientific Cooperation Postdoctoral Fellowships](#)

Deadline to apply: 31/03/2025

Award amount: \$29k

Every year, the BCSC proudly awards 4-5 fellowships to exceptional postdoctoral scholars from all corners of the world. Our Blaustein Postdoctoral Fellows undertake fundamental and applied studies in various fields related to drylands, including desert ecology, solar energy, environmental physics, rainfed and irrigated agriculture, soil-plant-atmosphere interactions, hydrology, aquaculture, environmental microbiology, desalination and water treatment, and biotechnology.

[JSPS-UNU Postdoctoral Fellowship Programme](#)

Deadline to apply: 31/03/2025

Award amount: JPY 8.8M

Jointly organized by the UNU and the Japan Society for the Promotion of Science (JSPS), the JSPS–UNU Postdoctoral Fellowship Programme is designed to provide promising, highly qualified young researchers with the opportunity to conduct advanced research in sustainability under host researchers at domestic universities and research institutions across Japan in cooperation with UNU-IAS.

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[Royal Society of Chemistry – Water Science Bursary](#)

Deadline to apply: 31/03/2025

Award Amount: £2k

The Royal Society of Chemistry's Water Science Forum invites applications for its water science bursary. This supports researchers engaged in projects that involve the application of chemical sciences in the management of the water cycle, and the impact these activities have on the environment.

[NERC - Opening up the Environment 2025](#)

Deadline to apply: 01/04/2025

Award amount: £62,500

Apply for funding to: 1) explore the potential your organisation or department has to increase diversity of representation attracting a wider talent pool into NERC science, 2) generate partnerships that identify, include and showcase a broad range of people and skillsets that contribute towards NERC science

[National Geographic - Request for Proposals: Freshwater Storytelling](#)

Deadline to apply: 22/04/2025

Award amount: \$20k, £100k

In partnership with the Conrad Hilton Foundation's Safe Water Initiative, The National Geographic Society seeks submissions from storytellers interested in creating and disseminating content that raises public awareness and engagement of important issues around the sustainable use of freshwater resources.

Open Calls with no closing date:

[IGB: Leibniz Institute of Freshwater Ecology and Inland Fisheries – Senior Fellows](#)

We invite excellent established scientists to apply for a research visit at IGB. We offer stays for 3 to 12 months to enable senior scientists to contemplate and pursue new inspiring research ideas in collaboration with scientific staff at IGB. At the time of application, successful candidates can be based at institutions in any country worldwide except Germany. Scientists residing in Germany are not eligible to apply, independent of their nationality.

[NERC Urgency Fund \(£100k\)](#)

Apply for funding to respond quickly to transient and unexpected scientific opportunities.

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[UKRI – Knowledge Transfer Partnership](#)

Open for business and not-for-profit organisations. Partnerships can last between 12 and 36 months. Business provide one-third to half the project cost depending on their size.

[NERC - Work with US-based researchers on environmental science research](#)

Award amount: £300k Apply for funding to work with US-based researchers on an environmental science application. Collaborative work is governed by an agreement between NERC and NSF.

[Work with Brazilian researchers: NERC FAPESP lead agency](#)

This opportunity allows UK-based researchers and researchers in the State of São Paulo, Brazil to submit a collaborative proposal under existing NERC funding opportunities. This will go through a single review process.

[UKRI - Collaborate with researchers in Norway](#)

UK Research and Innovation (UKRI) and Research Council of Norway (RCN) have signed a Money Follows Cooperation agreement to reduce barriers to cross-border collaboration.

[UKRI - Collaborate with researchers in Luxembourg](#)

UK Research and Innovation (UKRI) and FNR have signed a memorandum of understanding (MoU) to welcome and support collaborative applications. The MoU provides for a lead agency agreement whereby UKRI will receive and assess joint applications from eligible UK and Luxembourg applicants on behalf of both organisations