

VIRTUAL SYMPOSIUM

# Uncertainty in river water monitoring

New insights on spatio-temporal variability of suspended river water components

<b>Date:</b>	November 30th & December 1st 2022
<b>Type of Symposium:</b>	Virtual ( <i>hosted in Cisco Webex</i> )
<b>Registration fee:</b>	Free
<b>Language:</b>	English
<b>Organizers:</b>	German Federal Institute of Hydrology (BfG) & International Centre for Water Resources and Global Change (ICWRGC)

## Deadlines:

<b>Abstract submission deadline:</b>	30.09.2022
<b>Notification of abstract acceptance:</b>	31.10.2022
<b>Final programme:</b>	04.11.2022
<b>Registration deadline presenters:</b>	11.11.2022
<b>Registration deadline other participants:</b>	25.11.2022

Rivers transport suspended solids, including multiple substances from geogenic and anthropogenic backgrounds, from hillslopes towards the oceans. The spatial and temporal variability of suspended matter transport hereby strongly affects river and delta morphology, the chemical status of the rivers, aquatic habitats, and the global element cycle.

Even though suspended solids are currently monitored in many rivers

world-wide, the community is facing major challenges related to (1) limitations in monitoring the temporal variability of suspended solid transport, (2) limitations in monitoring the spatial variability of suspended solids in a river cross-section, (3) the large variety of applied monitoring methods, all with their own advantages and disadvantages, and (4) variations in particle size distributions, organic matter and flocculation processes, which further

complicate the interpretation of surrogate measurements and the understanding of chemical and physical properties of the suspended material and the binding-ability of elements. These challenges altogether lead to major uncertainties in river load estimations at various spatial scales and, therefore, require attention from the scientific community.

In this symposium, we would like to discuss these challenges and foster



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the exchange within and between the scientific community and river managers from governmental organizations and various NGOs. The symposium offers an exchange platform for participants who are willing to present and discuss new methods, developments and implications of their work. We welcome contributions including, but not limited to, the following topics:

- New methods and developments in suspended solid quantitative and qualitative monitoring.
- Insights on variability and gradients of suspended sediment distribution in the river cross-section.
- Insights on chemical composition and element distribution in the river cross-section.
- Temporal variability of suspended solids as well as element distribution and implications for a(n) required/optimal monitoring interval.
- Relationships between suspended solid characteristics (e.g. grain size, mineral composition, organic matter) and bound chemical elements.
- Insights on flocculation processes.
- (Global) suspended solids load estimates, their uncertainties, and following implications.
- Upscaling methods i.e. point measurements to cross-section / interpolation of low-frequent time series to yearly loads.

This symposium is organized as part of the scientific project "URSACHEN" ('Investigating the uncertainties of spatiotemporal variable substance loads estimations in rivers') at the Federal Institute of Hydrology and the International Centre for Water Resources and Global Change (UNESCO Cat. 2 Centre) (see project flyer attached).

This symposium further contributes to ambitions of the 9th phase of the UNESCO Intergovernmental Hydrological Programme "Science for a Water Secure World in a Changing Environment", in particular to the goals of the International Sediment Initiative (ISI) and the FRIEND-water Flagship Programmes.

### Abstract submission

We welcome all scientists and river managers who would like to present their work at this symposium to submit an abstract. Abstracts should be handed in as a doc- or docx-file and contain a maximum of 250 words. Talks should be 12 minutes + 3 minutes of discussion or flash talks of 5 minutes + 1-minute discussion. Please include title, names of authors, affiliation and contact details of the presenter, and favoured type of contribution (talk/flash talk).

Please send your abstract to: [events-icwrgc@bafg.de](mailto:events-icwrgc@bafg.de), at the latest on 30.09.2022.

Please do not forget to additionally register for the symposium (see registration information below). You will receive a notification of abstract acceptance and the preliminary scheduling on 31.10.2022. Due to the limited number of time slots, a selection will take place.

### Registration

Up to 200 participants can attend this online symposium. Please register for this symposium via this link: [www.waterandchange.org/symposium-2022](http://www.waterandchange.org/symposium-2022). Registering is obligatory and free of charge.

### Contact

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**More information can be found here:**

[www.waterandchange.org/symposium-2022](http://www.waterandchange.org/symposium-2022)

**Online registration**  
[www.waterandchange.org/symposium-2022](http://www.waterandchange.org/symposium-2022)



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