

Sed Net 2027

CALL FOR ABSTRACTS



Picture: Gabriel Miklós via Unsplash

Sediments in transition

25 years of connecting
policy, science and practice

15th International SedNet Conference
Budapest, Hungary
27 September – 1 October 2027

Co-organized by:



Sediments in transition

25 years of connecting policy, science and practice

Over the past 25 years, SedNet has established itself as Europe's leading platform for the exchange of knowledge and experience on sediment-related challenges. Since its foundation, SedNet has brought together scientists, policymakers, water managers, port authorities, consultants and practitioners, creating a unique network at the interface of science, policy and practice. Early discussions focused primarily on sediment quality, contaminated sediments, dredged material management and the implementation of emerging European water legislation, particularly the Water Framework Directive.

As understanding of aquatic systems evolved, SedNet's scope broadened accordingly. Alongside sediment quality and management, increasing attention was given to sediment continuity, ecosystem functioning, beneficial use of sediments, nature-based solutions, stakeholder engagement and the role of sediments in achieving sustainable river basin and coastal management. This evolution reflects a growing recognition that sediments are essential to the health, resilience and long-term sustainability of aquatic environments.

Today, sediments are at the centre of a rapidly changing environmental and policy landscape. Climate change, extreme weather events, coastal erosion, river restoration, digitalization and advances in data science and artificial intelligence are reshaping the way sediments are monitored, understood and managed. At the same time, 2027 marks an important milestone for European water policy, providing an opportunity to reflect on achievements, lessons learned and future directions.

Against this backdrop, SedNet 2027 in Budapest will celebrate 25 years of collaboration while looking ahead to the next generation of sediment management. The conference will explore how policy, science and practice can continue to work together to support resilient aquatic systems, sustainable sediment management and healthy waters in a changing world.

We propose seven thematic sessions for the conference:

1. Sediment policy & its impact on sediment management.
2. Sediment flows.
3. Sediment quality and risk assessment.
4. Nature-based solutions and beneficial use.
5. Sediment literacy and citizen science.
6. Digital sediments – monitoring, modelling & AI.
7. Climate change, coastal dynamics & extreme events.

Authors may submit an abstract for consideration as an oral presentation or a poster (and poster presentation). We are considering including a Science Slam in the programme. If you would be interested in participating and presenting your work in a concise, engaging, and accessible format, please indicate your interest during submission. Further details will be provided with the preliminary programme.

SEDIMENT POLICY & ITS IMPACT ON SEDIMENT MANAGEMENT

As Sediment is an inherent part of transboundary nature and water-systems, proper sediment management needs both recognition in existing management plans and integration into the new ones yet to come. Management plans are compiled under the European Habitats Directive, the Marine Strategy Framework Directive, and especially the Water Framework Directive. On the operational level dredging is an important tool for sediment management. Dredging is done for many reasons. The best-known purpose is to maintain navigation channels for shipping, but dredging is also used to modify the hydromorphology, improve the ecological status and maintain the discharge capacity for flood protection.

Despite the fundamental importance of sediments, it is quite remarkable that the word “sediment” is only sporadically mentioned in European water policies, including the Water Framework Directive, the Water Resilience Strategy and policies related to nature restoration. Recent developments in European Water legislation have once again highlighted the particular status of sediments including newly introduced exemptions concerning temporal deterioration of water quality. These exemptions make clear that sediments are not necessarily under the scope of the water regulations.

A similar situation exists with the Waste Framework Directive. Although the European waste list classifies dredged sediments as waste which should be managed as such, an exemption for non-hazardous dredged sediments can be found in the Waste Framework Directive. The question is if the unclear status of sediments in the Water and Waste regulations is helpful for reaching the ambitions we have for the functioning of EU Water systems in general, and for the sustainability of dredging projects.

We challenge you to hand in contributions that explore the role of current and emerging European policies in sediment management. Are the current EU policies sufficient to steer sediment management in the right direction, or do we need a specific sediment policy?



SEDIMENT FLOWS

Sediment is increasingly recognised as a key factor for ecosystem health, river restoration, climate resilience, navigation and flood risk management. Yet across Europe, international River Basin Management Plans consistently reveal a gap between understanding sediment continuity issues and implementing effective solutions.

This session invites contributions on innovative research, monitoring approaches, sediment budgets, restoration measures, governance frameworks, and practical solutions that improve sediment continuity, quality and management at basin scale. We particularly welcome case studies demonstrating how knowledge is being translated into action.

Join us in exploring how sediment flows can become a central element of sustainable river basin management

SEDIMENT QUALITY AND RISK ASSESSMENT

Sediment quality assessment is a key component of sustainable sediment management, providing the scientific basis for understanding contamination, evaluating environmental risks, and supporting sound management decisions. Over the past 25 years, approaches to sediment quality assessment have progressively evolved from chemical characterization and the identification of contaminated sediments towards more integrated frameworks that consider contaminant bioavailability, ecological effects, sediment dynamics and the broader environmental context.

This session will explore recent advances in sediment quality assessment and environmental risk evaluation, with particular attention to emerging contaminants, mixtures and multiple stressors, bioavailability and toxicity, ecological risk assessment, and innovative approaches for monitoring and characterizing contaminated sediments. Contributions addressing the integration of chemical, biological and ecotoxicological lines of evidence, as well as new tools for improving risk-based decision-making, are particularly welcome.

The session will also provide the chance to discuss how scientific knowledge can better support sediment management and policy, including the assessment and management of dredged and contaminated sediments, remediation strategies, beneficial use, and the transition towards more sustainable and circular approaches. Particular emphasis will be placed on bridging the gap between scientific assessment, regulatory frameworks and practical management needs.

In the context of Sediments in Transition, the session aims to foster discussion on how sediment quality and risk assessment can respond to emerging environmental pressures, including climate change and increasing anthropogenic impacts, while supporting resilient aquatic ecosystems and sustainable sediment management.



NATURE-BASED SOLUTIONS AND BENEFICIAL USE

At the 14th SedNet Conference in Madrid in 2025, the session focused on the contribution of Nature-Based Solutions and Beneficial Use of sediments (in short: BU) to a Circular Economy, the future proofness of Nature-Based Solutions due to climate change, the potential for carbon sequestration, the alignment with multiple EU Directives and the valorisation of the use of sediment as a substitute for raw materials.

All of these topics are still relevant. For 2027 we would like to put emphasis on some new developments in Europe. Could Carbon Pricing (ETS2) become relevant for BU and how? Is the proposed update of the Water Framework Directive, with new pollutants but also a revised view on non-deterioration, an enabler or barrier for BU? EU wants to be more resource independent; will this stimulate the BU of contaminated sediments? PFAS is everywhere and still actively released into surface water and therefore also present in sediments, how does this impact BU?

A lot of questions. We hope you have a lot of answers!

SEDIMENT LITERACY AND CITIZEN SCIENCE

As climate and environmental challenges reshape sediment management, there is an increasing need to connect scientific expertise, practical management needs, and public engagement.

This session explores how public acceptance of sediment management projects can be improved by empowering citizens through participatory science and by improving public sediment literacy. By fostering a shared understanding of sediment-related challenges, we can strengthen community involvement, inform policy and decision-making and translate scientific knowledge into practical action. Join us as we examine innovative approaches, success stories, and the pivotal role of public collaboration in shaping the future of sediment management.

We invite researchers, practitioners, and community organizers to submit abstracts that explore innovative participatory science, strategies for raising sediment literacy, collaborative sediment-related challenges and new ways to improve decisions in complex scientific, stakeholder and govern scenarios. We welcome submissions addressing:

- Participatory Monitoring: Citizen science initiatives tracking sediment transport, quality, or erosion.
- Education & Literacy: Programs bridging the gap between scientific knowledge and public understanding.
- Policy & Community Impact: Success stories where public involvement directly influenced sediment practice or governance.

Help shape the next generation of sediment stewardship by sharing your research, methodologies, and case studies.



DIGITAL SEDIMENTS — MONITORING, MODELLING & AI

Sediment dynamics are fundamental to understanding and managing aquatic and coastal environments. However, conventional investigative methods, often struggle to capture their complexity and rapid changes. Advances in continuous monitoring technologies, digital sediment data frameworks, and artificial intelligence offer new opportunities to accelerate and transform sediment science by providing more accurate, timely, and integrated insights into sediment transport, quality, and behavior.

This session invites contributions on innovative applications of digital monitoring technologies, including remote sensing, combined with AI and machine learning approaches to improve sediment modeling and prediction across spatial and temporal scales. The focus is on bridging the gap between data acquisition and actionable knowledge to support understanding in dynamic environments, sustainable sediment management, and informed decision-making.

Topics of interest include, but are not limited to:

- Case studies demonstrating operational use of digital sediment data collection tools in riverine, estuarine, and coastal settings.
- Integration of multi-source monitoring data (e.g., sensors, drones, satellites) into digital sediment frameworks and combination with traditional data collection methods (e.g. digital twin).
- Development and application of AI and machine learning models for predicting sediment transport, quality, and pollutant fate.
- New approaches and technologies for real-time sediment system simulation.
- Advances in sediment data management, sharing, and interoperability.
- Coupled modeling approaches addressing physics-based microscale and macroscale processes alongside chemical and biological interactions .
- Uncertainty quantification and validation of AI-driven sediment models.
- Practical applications of digital sediment science e.g. for risk assessment, sediment management, restoration, and climate adaptation.

CLIMATE CHANGE, COASTAL DYNAMICS & EXTREME EVENTS

The summer of 2026 has once again confronted us with record-breaking heatwaves, prolonged droughts and widespread wildfires across Europe. Yet these dry extremes are increasingly followed by intense rainfall and devastating floods, as witnessed in recent years in Europe and many other parts of the world. Climate change is amplifying both ends of the hydrological spectrum, with profound consequences for rivers, estuaries and coastal systems.

Sediment lies at the heart of these changes. Extreme events can trigger erosion, sediment mobilisation and the redistribution of contaminants across catchments and floodplains, while drought and rising temperatures may alter sediment quality and pollutant behaviour. In coastal areas, sea-level rise and changing hydrodynamic conditions are reshaping sediment transport patterns and ecosystem functioning.

At the same time, sediment is not only affected by climate change but can also be part of the solution. Healthy sediment systems support ecosystem services such as carbon storage, nutrient cycling, water regulation and climate-resilient habitats, making sediment management an important component of adaptation strategies.

This session welcomes contributions that improve our understanding of the interactions between climate change, sediment dynamics and coastal processes, and explore how sustainable sediment management can contribute to resilient riverine, estuarine and coastal environments.

Topics of interest include, but are not limited to:

- Impacts of climate change on sediment quality, quantity and distribution;
- Effects of extreme events such as floods, droughts, heatwaves, wildfires and coastal storms;
- Coastal and estuarine responses to sea-level rise and changing hydrodynamics;
- Sediment-related climate risks, monitoring and modelling approaches;
- Nature-based solutions and climate adaptation through sediment management;
- Case studies and lessons learned from recent extreme events.



Conference Organisation

The conference is co-organised by SedNet and BME Budapest.

BME is one of Hungary's leading technical universities, with a strong tradition in engineering, water sciences and applied research. The university has extensive expertise in river hydraulics, sediment transport, hydromorphology and sustainable river management, and is actively involved in major European research and innovation initiatives in these fields, including the [iNNO SED](#) and [DSQ2 projects](#), addressing sediment management and sediment quality in the Danube region. As the local co-organiser and host of SedNet 2027, BME provides an inspiring academic setting for exchanging knowledge, presenting new research and strengthening collaboration between scientists, policymakers and practitioners from across Europe.

Conference Venue

The conference will be held exclusively as an in-person event at the Budapest University of Technology and Economics (BME) in Budapest, Hungary.

Budapest, the capital of Hungary, is a vibrant city renowned for its rich history, impressive architecture and cultural heritage. Situated on both banks of the River Danube, the city brings together the historic districts of Buda and the lively urban centre of Pest. Its landmarks include the Hungarian Parliament Building, Buda Castle, the Chain Bridge and the city's famous thermal baths. With the Danube at its heart, Budapest provides a particularly fitting setting for SedNet 2027, combining academic excellence, historic surroundings and modern city life.



Language

The conference language will be English. No translation facilities will be provided.

Excursion

On the day after the conference, Friday, the 1st of October, an excursion will be organised. Details will be announced in the preliminary conference programme.



Conference Fee

€ 550,00

Regular fee
excl. VAT

€ 150,00

Student fee
excl. VAT

If a student has submitted an abstract that has been selected for oral presentation, then his/her fee will be waived.

The fee includes admission to the 3-day conference programme, social events, conference dinner on the 29th of September and an excursion on the 1st of October. Details about the social events and excursion will be provided in the preliminary conference programme.

Submission of abstracts

Please visit the SedNet website for the template for submission of abstracts.

**Deadline for submission of abstracts:
11 December 2026**

Registration

Information about registration, travel and accommodation will be provided in detail in the preliminary conference programme.

SedNet



SedNet is the European network which aims to incorporate sediment issues and knowledge into European strategies to support the achievement of good environmental status or potential and to develop new tools for sediment management.

Its focus is on all sediment quality and quantity issues at the river-sea system scale, ranging from freshwater to estuarine and marine sediments. SedNet brings together sediment professionals from science, administration, industry and consultancy. It interacts with the various networks in Europe that operate at national or international level or that focus on specific fields (such as science, policymaking, sediment management, industry, education). Special attention was devoted in recent years to the integration of sediment management in the Water Framework Directive implementation process, and particularly in the River Basin Management Plans.

Further Information

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