

Sediment and pollutants transport in river catchments: radionuclides and fingerprinting techniques applications for assessment, monitoring and risk prevention



Astana, Kazakhstan



17-21 November 2025



sediment.conf@gmail.com

The conference will focus on the results of studies examining the rates of redistribution and accumulation of sediments in catchments across various landscape zones worldwide, using radionuclides as tracers. It will also present experience in applying the fingerprinting technique to identify key sediment sources for urban, agricultural, and other river catchments. The relevance of these approaches is particularly notable, including for the republics of Central Asia and Kazakhstan, where the natural environment is under increasing pressure due to the expansion of agriculture, mining, and industrial activities, thereby significantly heightening environmental risks.

The conference will address:

1. Using the Fallout radionuclides (^{137}Cs , ^{210}Pb and ^7Be) as a tool for sediment redistribution assessment and sedimentation rate evaluation in different landscape zones.
2. Identification of sediment sources contribution for urban, agricultural, natural and mixed river catchments based on application of fingerprinting technique.
3. Sediment management as a tool to prevent natural and environmental risks based on the use of a set of quantitative methods

Conference venue:

The conference will take place at the Kazakhstan branch of Lomonosov Moscow State University in Astana – the capital of Kazakhstan – with excellent flight connections to Europe and the rest of the world. The campus is a modern, international academic venue, perfectly suited for the scientific exchange of experience. Hosting the conference in Astana emphasises the relevance of the topic for the region and encourages leading researchers from different countries to take part in the event.



Conference Proceedings:

The papers presented at the conference will be published in the conference proceedings, which will provide up-to-date information on fingerprinting methodology, including key tracers and current approaches to source identification of pollution.

Organizers:

Kazakhstan branch of the Lomonosov Moscow State University; Lomonosov Moscow State University Faculty of Geography; Grant "Pollutant transport, toxic chemicals and their compounds in river catchments: technologies of studying, quantified assessment and forecast" by the Ministry of Science and Higher Education of Russia; International Association of Hydrological Sciences; World Association of Soil and Water Conservation.