

## Special Issue

# Landslide Hazard Controlled by Water-Rock Interaction and Risk Assessment in Hydropower Development

### Message from the Guest Editors

A large number of landslide hazards are associated with complex hydrological dynamics and active tectonics. Rainfall and the water level of reservoirs fluctuate as the typical disturbances caused by major hydropower engineering lead to periodic infiltration and exfiltration within the hillslope, which can further induce slope movements regardless of the rock slope or landslide deposits. Water-rock interactions are significantly implicated in these hydrological and geological processes, facilitating chemical and physical weathering that eventually results in rock deterioration and slope destabilization.

The scope of this Special Issue includes the development of landslide hazards in critical hydropower engineering areas according to the geomorphology, geology, environment, hydrology and rock deterioration present, and risk assessments and early warning systems for hazard evolution using artificial intelligence, monitoring, numerical simulation, reliability-based analysis, and other advanced techniques or approaches. Scholars are also welcome to submit research addressing hazard chains such as natural dam formation, dam breaches, and outburst flood evolution.

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### Guest Editors

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### Deadline for manuscript submissions

25 August 2025



## Water

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### Editor-in-Chief

Dr. Jean-Luc PROBST

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