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The Latest Research in Permafrost Hydrology

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Message from the Guest Editors

This Special Issue focuses on freeze–thaw damage, frost deformation, water distribution, storage, flow of seasonally and perennially frozen soils and rocks, and various engineering geology disasters caused by water movement and phase change in cold regions. Climate change, natural or human-induced, reinforces the impacts. Knowledge of surface and ground water processes operating in permafrost terrain is fundamental to planning, management, and conservation. Moreover, infrastructure construction in cold regions and geotechnical engineering damages caused by permafrost degradation and water movement have become increasingly severe, which poses great threats to the safety and long-term stability of infrastructure in permafrost regions.

- Freeze–thaw damage to rocks and soils caused by water/ice phase change;
- Thermo–hydraulic–mechanical coupling process by considering the water/ice phase change;
- Water distribution and storage of seasonally and perennially frozen ground;
- Water movement and phase change;
- Physics and mechanics of frozen soil;
- Soil improvement and reinforcement techniques;
- Engineering disaster prevention and mitigation in cold regions.

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Message from the Editor-in-Chief

In the context of global changes, the sustainable management of water cycles, going from global and regional water cycles to urban, industrial and agricultural water cycles, plays a very important role on the water resources and on their relationships with food, energy, biodiversity, ecosystem functioning and human health. *Water* invites authors to provide innovative original full articles, critical reviews and timely short communications and to propose special issues devoted to new technological and scientific domains and to interdisciplinary approaches of the water cycles. We ensure a critical review process and a quick turnaround between submission and final decision.

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