



water

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A Bayesian Approach to Hydrological Modeling of Groundwater/Surface Water Interaction

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Deadline for manuscript
submissions:

closed (25 November 2023)

Message from the Guest Editors

Dear Colleagues,

Groundwater/surface water interactions have been widely studied in recent decades, and computational modeling has enhanced our understanding of the physical and chemical processes that occur at the interface between a stream bed and groundwater aquifer. With the dramatic increase in computing speed and memory, computation of complex hydrologic systems has become more comprehensive, involving large-scale simulations and more dynamic settings. However, these hydrologic models remain uncertain due to the heterogeneity of hydrologic systems and non-linear dynamics of hydrological processes. The Bayesian approach has been actively adopted for hydrological modeling, especially for groundwater, providing cost-effective data collection, optimal parameterization, reducing model uncertainty, and allowing reliable decision making for remediation and water resource management. Recent advances in high-resolution remote sensing and machine learning/artificial intelligence have increased the effectiveness of the Bayesian approach to hydrological modeling.

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Guest Editors



mdpi.com/si/173103

Special Issue



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Journal Rank: JCR - Q2 (*Water Resources*) / CiteScore - Q1 (Water Science and Technology)

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