





Special Issue Reprint

Groundwater-Surface Water Interactions

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Recent years have seen a paradigm shift in our understanding of groundwater-surface water interactions; surface water and aquifers were long considered discrete, separate entities; they are now understood as integral components of a surface-subsurface continuum. This book provides an overview of current research advances and innovative approaches in groundwater-surface water interactions. The 20 research articles and 1 communication cover a wide range of thematic scopes, scales, and experimental and modelling methods across different disciplines (hydrology, aquatic ecology, biogeochemistry, and environmental pollution). The book identifies current knowledge gaps and reveals the challenges in establishing standardized measurement, observation, and assessment approaches. It includes current hot topcis with environmental and societal relevance such as eutrophication, retention of legacy, and emerging pollutants (e.g., pharmaceuticals and microplastics), urban water interfaces, and climate change impacts. The book demonstrates the relevance of processes at groundwater-surface water interfaces for (1) regional water balances and (2) quality and quantity of drinking water resources. As such, this book represents the long-awaited transfer of the above-mentioned paradigm shift in understanding of groundwater-surface water interactions from science to practice.





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