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Sustainable Water Resource Management in the Water-Energy-Food Nexus under Climate Change

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Deadline for manuscript submissions:

29 October 2024

Message from the Guest Editor

The main goal of the Water–Energy–Food Nexus (WEFN) is to increase environmental resilience by taking advantage of the synergies between the three interdependent socioeconomic sectors. In this Special Issue (SI), we focus on water sustainability under climate change, which is the main factor for environmental safety.

We can consider the WEFN as a particular case of the Integrated Water Resource Management (IWRM) framework because the inter-sector integration is restricted to water, energy, and food. The main difficulty in implementing the WEFN is that winners and losers appear among the three interacting sectors. Between multiple acceptable solutions, we may choose the most preferable option by ensuring water security (through the use of recyclable water only), obtaining energy sufficiency (avoiding energy overuse), and producing sufficient food. A resilient WEFN may lead to human and environmental sustainability.

Case studies, success stories, and papers demonstrating the co-benefits of the WEFFN on renewable energy, solar pumping for irrigation, smart agriculture based on a precise water supply, and saving water by planting less water-demanding crops are welcome.









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Message from the Editor-in-Chief

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