



water

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Flood Forecasting Using Machine Learning Methods

Guest Editors:

Prof. Dr. Fi-John Chang

Distinguished Professor,
Department of Bioenvironmental
Systems Engineering, National
Taiwan University, Taipei, Taiwan

Prof. Kuolin Hsu

Civil and Environmental
Engineering, University of
California, Irvine, Irvine, CA
92697, USA

Prof. Dr. Li-Chiu Chang

Department of Water Resources
and Environmental Engineering,
Tamkang University, Tamsui,
Taiwan

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Message from the Guest Editors

Early flood warning systems with different lead times are promising countermeasures against flood. A collaborative assessment from multiple disciplines, comprising hydrology, remote sensing and meteorology, of the impacts of flood hazards beneficially contributes to model integrity and the precision of flood forecasting. Computing technologies, coupled with big-data mining, have boosted data-driven applications, among which Machine Learning (ML) technology bearing flexibility and scalability in pattern extraction has modernized not only scientific thinking but also predictive applications.

In the context of flood hazard mitigation, methodologically-oriented countermeasures may involve forecasting on reservoir or river flow, tropical cyclone track, and flooding at different lead times and/or scales through modern technologies such as, but not limited to, MLs, big-data mining, multiple data aggregation/ensembling, and model ensembling. Analyses of impacts, risks, uncertainty, vulnerability, resilience and scenarios coupled with policy-oriented suggestions will give insight into flood hazard mitigation. A GIS for visual presentation of inundation is also helpful in decision-making.



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Dr. Jean-Luc PROBST

ECOLAB, Centre National de la
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France

Message from the Editor-in-Chief

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Contact Us

WaterEditorial Office
MDPI, St. Alban-Anlage 66
4052 Basel, Switzerland

Tel: +41 61 683 77 34
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