Special Issue

Advances in River Mixing Analysis

Message from the Guest Editor

Issue focuses on the analysis of river mixing, which involves advection, diffusion and dispersion of contaminants in open channels (creeks, streams and rivers). Diffusion process is defined as the scattering of particles by turbulent and random molecular motions, which is described by Fick's law. Dispersion process is represented by mixing that results from spatial variations of velocity. In rivers, dispersive mixing capacity is much greater than diffusion. Their sum can be approximated by dispersion coefficient after initial period. River mixing have been conducted using one-dimensional approaches based on longitudinal dispersion, assuming that the pollutant rapidly becomes well-mixed across the cross-section. A multi-dimensional analysis should be conducted in cases focusing on the mixing of tributary inflows or waste discharge near a water intake. Industrial and environmental projects require the ability to predict contaminant transport in open channels, ranging from accidental spills of chemicals to the transport of non-point sources. We encourage experimental studies at the laboratory and field scale, as well as modeling studies of river mixing.

Guest Editor

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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.

Editor-in-Chief

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