



*Special Issue Reprint*

## **River and Lake Ice Processes—Impacts of Freshwater Ice on Aquatic Ecosystems in a Changing Globe**

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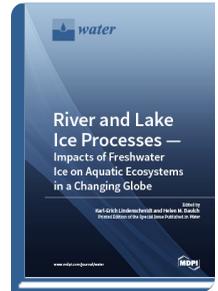
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Most freshwater aquatic ecosystems have focused on open-water conditions, during spring, summer, and autumn. Studies in winter during ice-covered conditions are sparse due to the logistic difficulties of sampling during freezing weather and the assumption that these ecosystems are biologically inactive during winter. There is growing evidence, however, that ice conditions can have strong impacts on the flora, fauna, and water quality of freshwater systems, dependent on the severity and duration of the winter season. The magnitude of winter conditions and the duration of the ice-covered period can also set the stage of the biological succession of flora, fauna and water-quality constituents in the subsequent spring and summer seasons (e.g., higher probability of early algal blooms with earlier ice-off dates). Climate change and changes in the type and degree of anthropogenic impacts will also influence the ice regime and hence the ecosystems of northern freshwater systems. This Special Issue provides a venue to report new findings in field-based and modelling research to highlight the importance of the ice regime and ice-induced hydraulic regime of rivers and lakes on their aquatic ecosystems.



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