



water



Special Issue Reprint

Fluvial Hydraulics in the Presence of Vegetation in Channels

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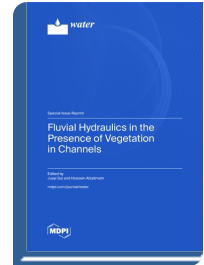
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ISBN 978-3-0365-8745-5 (Hardback)

ISBN 978-3-0365-8744-8 (PDF)



In many semi- and arid regions, water does not flow from the middle of spring to early fall, leading to the development of vegetation patches with irregular distribution on channel beds and banks. These vegetation patches influence the characteristics of flow in rivers and streams. The presence of vegetation patches on channel beds and banks can be either submerged or emergent. The height of an emergent vegetation patch exceeds water depth, while the height of a submerged vegetation patch is less than the water depth. Vegetation patches on both channel beds and the banks of natural rivers play a significant role in many aspects of the environment, including water quality, sediment transport and bank stability.

The aim of this Special Issue was to bring together research results that improve our understanding of fluvial hydraulics in vegetated channels, including the effects of submerged and emergent vegetation on velocity distribution, validation of the logarithmic law, Reynolds stress, turbulence intensities and bursting events for different aspect ratios (the ratio of width to flow depth) over flat gravel beds and 2D and 3D bedforms. The results showed that the determination of key hydraulic parameters such as the roughness coefficient and drag coefficient is influenced by vegetation arrangements and variation in bedforms.



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