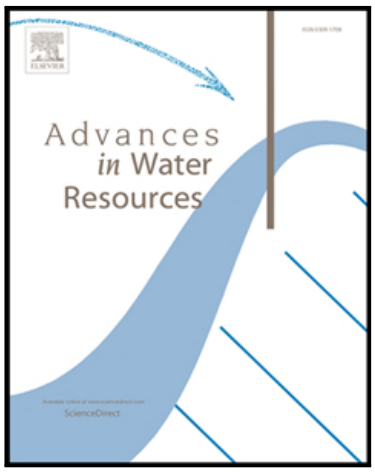

Modeling anisotropy in free-surface overland and shallow inundation flows

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Highlights

- Regular patterns are common in both natural and man-modified environments
- Oriented roughness forces anisotropic resistance that affects free-surface flows
- Anisotropic resistance is formalized and accounted for in a 2D hydrodynamic model
- A subgrid model, based on the concept of REA, ensures mesh-independentness
- Accuracy and efficiency make the model suitable to large-scale applications