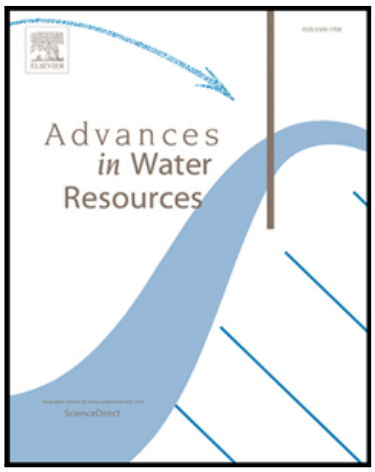

An implicit wetting and drying approach for non-hydrostatic baroclinic flows in high aspect ratio domains

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Highlights

- Non-hydrostatic, baroclinic, implicit wetting and drying for multi-scale simulation.
- Substantially improves and controls matrix conditioning in high aspect ratio regions.
- Introduces physically-based and consistent stabilisation.
- 3D fully-unstructured approach improves accuracy where vertical inertia is important.
- Enables multi-scale inundation applications, for urban flooding and tsunami scenarios.