

A Locally Adaptive Numerical Model for Non-Hydrostatic Waves

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This research is focusing on scenarios where non-hydrostatic forces become crucial, such as landslide tsunamis. Building upon a previously developed projection-based approach that extends shallow water equations to account for non-hydrostatic effects, this study aims to expand the model into a 2D spatial domain. Key objectives include establishing criteria for partitioning the computational domain into regions where hydrostatic equations suffice and areas where dispersive effects are significant. The anticipated outcome is a refined model that offers an accurate and computationally efficient tool for simulating dispersive waves in geophysical scenarios, contributing to enhanced prediction capabilities in tsunami and landslide-related research.