Towards the Second-generation Louvain-la-neuve Ice-ocean Model (SLIM)

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Due to their ability to represent complex geometries and localised phenomena, unstructured meshes seem to be a promising tool for oceanic and coastal flows simulation. In this talk, we report on the progress made in the development of the Second-generation Louvain-la-neuve Ice-ocean Model (SLIM). Issues like adaptive mesh generation, the selection of a convenient finite element pair, advection schemes, the numerical treatment of non-linear terms and the discretization of vertical turbulent closure schemes are discussed. Preliminary calculations will be presented for the Global Ocean and the Great Barrier Reef.