

Modelling Tides in the Persian Gulf Using Dynamic Nesting

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A model that predicts tidal elevations and flow velocities is developed and applied to the Persian Gulf. The model uses finite difference techniques applied to twodimensional spherical-coordinate equations that govern tidal movement in coastal regions. Because of the importance of the Gulf to the shipping and fishing industries, it is necessary to be able to predict tidal elevations and flows at many near-shore locations. However, it would be impractical to use a very fine finite difference grid over the whole Gulf, because of its size. A technique is developed for nesting a fine grid within a coarse grid, so that important areas can be modelled more accurately.