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**Qingshan Chen\*** (qsc@clemsn.edu). *Computation of the shallow water equations.*

Climate prediction relies on long-term simulations of the ocean and atmosphere. Maintaining dynamical balances within these geophysical flows is essential for a candidate numerical scheme to succeed in such simulations. The system of shallow water equations is instrumental in the study of geophysical flows, because it is a barotropic approximation of the world ocean and atmosphere. In this talk, we will go over certain issues that need to be considered when designing numerical schemes for the shallow water equations. Some recent results will be presented at the end. (Received August 13, 2013)