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**L. Ruby Leung\*** ([ruby.leung@pnl.gov](mailto:ruby.leung@pnl.gov)), Pacific Northwest National Laboratory, P.O. Box 999, Richland, WA 99352. *Analysis of Biases in a Tropical Channel Climate Simulation and Implications to Climate Prediction.*

Globally, latent heat release by precipitating clouds accounts for about 75% of the energy received by the atmosphere. Convective latent heat release in the tropics modulates the large-scale circulation and excites tropical waves that influence both the tropical and extra-tropical climates. To date, most global climate models exhibit large biases in simulating processes in the tropics, including large scale features such as the inter-tropical convergence zone, eastward/westward propagating tropical modes, and hurricanes statistics. The lack of scale interactions in global climate models is postulated to be a critical factor responsible for the tropical biases. In this presentation, I will show a simulation produced using a tropical channel model and discuss the challenges in simulating tropical processes, and their implications to climate prediction at various time scales. (Received September 20, 2007)