Progress and Issues in Simulating the MJO in GCMs

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Abstract

It is one of the important objectives of the development of the Madden-Julian Oscillation (MJO) simulation diagnostics (MJO WG 2009) to track progresses of improvement in capability of the global climate models (GCMs) to simulate the MJO. Based upon results from applications of the diagnostics to contemporary GCMs, this presentation will show current status and recent progresses in simulating the MJO in GCMs. Recently it has been shown that simulation of the MJO can be improved by enhancing interactions between moisture and convection. Success stories of some models with modifications in convection parameterization and plausible reasons for the improvement will also be addressed.