

**A simple multcloud parametrization for convectively coupled waves
with an active boundary layer**

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Intermediate models with crude vertical resolution are an important tool in the study of tropical convection and convectively coupled waves. They are comprehensive enough to represent many features of tropical convection, yet simple enough to permit detailed mathematical analysis. As such, they provide a powerful framework for assessing various convective parameterization concepts. Intermediate models typically employ a simple passive boundary layer, in which the bulk equivalent potential temperature evolves due to surface evaporation and environmental and convective downdrafts. In this poster, we will present equations for boundary layer velocity, temperature and moisture that include the effects of divergence and turbulent mixing with the free atmosphere. The system is developed in the context of the Khouider-Majda multcloud model (Khouider & Majda 2006, *J. Atmos. Sci.* 63, 1308-1323), using ideas from Stevens (2006, *Theor. Comput. Fluid Dyn.* 20, 279-304). Some preliminary linear stability results will be shown.

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