



Implications of some of moist convection's other paths to heating.

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Atmospheric moist convection plays a fundamental role in governing atmospheric circulation system and the response of the atmosphere to forcing. Although the role of deep convective heating in balancing the atmospheric energy budget and driving circulations has long been appreciated, other ways in which convection can be diabatic have been less extensively studied. For instance, the coupling between convection and radiative heating in the atmosphere appears to play an important role in determining the position of the ITCZ, and the strength of tropical variability, both on inter-seasonal (MJO) and inter-annual (ENSO) timescales. Likewise precipitation from very shallow convection is found, under some circumstances to be very efficient and to regulate the structure of the marine boundary layer in the trades. This may have implications for convective aggregation and the large-scale organization of convection, as well as for the susceptibility of clouds to forcing. In addition to addressing the above ideas, new frameworks (observations and simulation) for exploring the interplay of convection with large-scale circulations will be presented.