

MMM SEMINAR SERIES



The Role of Cold Pools in Modulating Convective Organization during the MJO

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In this study, we investigate the role of cold pools in modulating convective organization throughout the Madden-Julian Oscillation (MJO) life cycle using a modeling approach that combines Eulerian and Lagrangian techniques. First, we conduct a simulation using the soundings and forcing of the DYNAMO/AMIE campaign. The simulation shows a lag of several days between the precipitation rate peak time associated with MJO and the highest convective organization time. Second, to analyze the role of cold pools, we consider a series of 2-day simulations conducted at different stages of the MJO. The simulation results suggest that cold pools are larger and last longer during the mature stages of the MJO, possibly because of decreased environmental surface latent heat fluxes and stronger downdrafts. These lead to the formation of moist rings at the leading edges of cold pools, facilitating the formation of more convective cores and increasing the degree of convective organization.

Thursday, 30 May 2024, 2:00PM

Refreshments 1:45PM

Please also join colleagues for refreshments and informal discussion after the seminar until 3:30pm

NCAR-Foothills Laboratory, 3450 Mitchell Lane

FL2-1022, Large Auditorium

Seminar will also be live webcast

<https://operations.ucar.edu/live-mmm>

Participants may ask questions during the seminar via Slido.