Evolution of Humidity and Convection Prior to MJO Onset and Their Sensitivities to Upper-Tropospheric Equatorial Wave Dynamics

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Evolution of Cloud Population and Humidity Fields
Mean radar-derived precipitation (mm)

WH MJO Phase

LCE1

LCE2

LCE3

Date

01Oct 15Oct 01Nov 15Nov 01Dec 15Dec 01Jan 15Jan

Convective
Stratiform
Total

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Top row: Gan rawinsonde data

Bottom row: ERA-Interim (3°N – 3°S, 68°E – 78°E)
Upper-Tropospheric Dynamics
150 hPa $u'$
Blue: Easterly
Red: Westerly
150 hPa $u'$
Blue: Easterly
Red: Westerly
150 hPa $u'$
Blue: Easterly
Red: Westerly
Suppressed Convection

Enhanced Convection

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End