

# Topographic Effect on the Shift of the MJO Convection through the Maritime Continent

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Shift of the MJO convection, instead of smooth propagation, through the maritime continent is often observed in the boreal winter. It has been suggested that the lifting and frictional effects of the topography and landmass in the maritime continent induce the near-surface moisture convergence anomaly, which in turn triggers the deep heating anomaly. Subsequently, the old heating anomaly located to the west of the tropical topography weakens and the new heating anomaly east of the topography develops because of the eastward shift in the major moisture convergence center to the east of the mountains. A further investigation indicates that the MJO convection tends to skirt around the mountainous islands and move along the southern edge of the island chain in the maritime continent, and re-emerge at the eastern side of the Papua New Guinea. The existence of these mountainous islands also results in the isolated deep convection during the movement of the MJO through the maritime continent. Existence of the mountain-forced wave-like structure is observed. Possible mechanism due to the topography will be discussed.