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The heat flux from the land surface during the pre-monsoon season in the inland region of Thailand

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Abstract The heat flux during the pre-monsoon period in the inland area of Thailand is investigated using wind and moisture fields and sensible and latent heat flux from the NCEP/NCAR (the National Centers for Environmental Prediction/National Center for Atmospheric Research) re-analysis, precipitation and OLR (Outgoing Long wave Radiation) data for 2003. From middle or late March, before the monsoon onset, the latent heat flux is continuously dominant and the land condition is wet. The composite analysis of the intermittent dominance of the latent heat flux in February shows that the dominant area of the latent heat flux extends over southern China, the inland area of Thailand and Cambodia. The trough is analysed in the upper troposphere. The precipitable water increases, centering on the inland area of Thailand. It is suggested that evaporation from the land surface contributes to the moist condition of the atmosphere. However, the latent heat flux does not increase until the onset of the summer monsoon over India and the central part of Myanmar. The properties of the heat flux from the land are not similar to those over the Asian monsoon area during the pre-monsoon period.

Key words latent heat flux; sensible heat flux; the Indochina Peninsula; NCEP/NCAR re-analysis data; OLR