

台灣北部沿海地區冬季日夜環流及其對降水之影響

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摘 要

本文分析 1976～1980 年台灣北部沿海地區風及降水資料，以研究其日夜變化形式。結果顯示降水之日夜變化主要由局部環流之日夜變化來控制。局部環流在 1400 LST 出現最大向岸風及輻散；在 0200～0500 LST 出現最大離岸風及輻合。強烈對流降水顯然係可由局部輻散場之日夜變化激發。並發現降水之日夜變化主要由行星邊界層內之動力過程控制，熱力過程僅佔次要角色在改變降水之時間分配。

**The Winter Diurnal Circulation and Its Influence on Precipitation
over the Coastal Area of Northern Taiwan**

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ABSTRACT

Wind and rainfall data for December, January and February, 1976-80, over the northern coastal area of Taiwan were analyzed to examine the diurnal patterns of these parameters. Results show that the diurnal variation of rainfall was strongly modulated by the diurnal cycle of local circulation. Local circulations exhibit maximum onshore flow and divergence at 1400 LST and maximum offshore flow and convergence in 0200-0500 LST. Convective heavy rainfall appears to be triggered by the diurnal divergence pattern. Finally, the diurnal rainfall was primarily controlled by the dynamical processes within the planetary boundary layer and the thermodynamic process only plays a minor role in modifying the temporal rainfall pattern.

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