台灣梅雨季中尺度低壓與降水之研究

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摘　　要

鑑於台灣地區梅雨期中尺度低壓之形成、發展、消散與降水間之關係相當明顯，且 1981 年後GMS 衛星資料可提供每 3 小時之對流雲及層狀雲觀測，又因 1986 年與 1987 年TAMEX Phase Ⅰ與Phase Ⅱ 之密集觀測，因此，利用這些傳統與衛星及雷達資料來分析中尺度低壓與降水之確切相關，對於改進梅雨期降水預報將有參考應用價值。

本文係利用 1983 — 1987 年 5 — 6 月梅雨期之地面與 850 hPa 天氣圖分析及地面降水資料，以探討中尺度低壓與降水之關係。首先分析辨認中尺度低壓，以求取中尺度低壓旋生與出現頻率、生命期、旋生時之強度與低壓強度之日夜變化。其次分析中尺度低壓主要出現區與降水量之分佈，並求取低壓主要區與降水量之日夜變化。最後探討中尺度低壓與豪雨之關連，求取豪雨與非豪雨之低壓分佈，並分析各區豪雨之低壓分佈與各豪雨個案之綜觀條件。

Study of Mesolow and Rainfall in Taiwan Mei-Yu Season (I)

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Abstract

It is known that the formation and evolution of the mesolows are closely related to the rainfall event in Taiwan Mei-Yu season. The study of more specific relationships between the mesolow and rainfall/radar echo as well as convective vs non-convective clouds becomes feasible due to the fact that 3 hourly GMS cloud observations have been available since 1981 and TAMEX data (1986, 1987) are also available now. It is believed that a better understanding of this relationship will improve the rainfall forecast in Taiwan Mei-Yu season.

The main purpose of this study is to investigate the relationship of the mesolow and rainfall using surface and 850 hPa charts as well as rainfall data in the Mei-Yu seasons of 1983-1987. The mesolows were first obtained to analyze the frequency distribution, life span, intensity and diurnal variations. Major areas of the mesolow occurrence were then chosen to study the rainfall distribution and the diurnal rainfall variations. Finally, the relationship between mesolow and heavy rainfall event was analyzed and the synoptic situation of each individual heavy rainfall event was presented.