雷陣雨客觀預報法在台灣地區的嘗試

An Objective Method for Forecasting Convective Processes in Taiwan and its Vicinity

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一、前　　言

近年來，雷陣雨的預報已由傳統的主觀法逐漸改進為客觀法。這種客觀法可分為動力、統計及動力統計三種，以動力統計法最優良，現已被廣為採用。

雖然今日我們已有完善的數值預報模式預測短期間綜觀及大幅度大氣之擾動，但對於中小幅度之天氣系統尚未有妥善的數值模式可資應用，因此目前對於雷陣雨預報乃需藉助於統計方法。根據 Klein(1970) 的報告，現有三種不同統計方法可供中小幅度天氣系統客觀預報之用：

㈠傳統方法 (Classical method)

㈡完整預報法 (Perfect prog. method)

㈢不完整預報法 (Imperfect prog. method)

第三法所用的預報因子乃是數值模式之結果，而非實

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Abstract

Methods and procedures for forecasting the probability

occurrence of convective processes are presented. The statistical

relationship between predictors and predictand is derived based

on Model Output Statistics (MOS) using stepwise regression

procedure. The predictors are extracted from the 24-hour prognostic

charts furnishsed by the Japan Meteorological Agency. The

predictand, on the other hand, is obtained from radar summary maps

at Central Weather Bureau.

Since the stability and moisture parameters are important for

thunderstorm development. It is necessary to deduce them directly

from forecasting charts. Among them, values of Td and T-Td at 850_{mb} are conducive in determining the degree of potential instability.

Unfortunately, these parameters are not included in the above forecasting charts, therefore, they have to be deduced from other known moisture parameters using certain statistical relationships.

Our results show that the correlation between values of T-Td at 700mb and 850mb is the highest for all four stations considered.

Such relationship can be further improved if the data sample is stratified in accordance with prevailing wind directions.