以倒傳遞類神經網路建構颱風降雨預測模式

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摘　要　颱風挾帶的龐大雨量為台灣中南部地區的主要降水之一，颱風降雨雖能緩和中南部地區乾旱情形，但有時亦會造成災害。其降雨量除了受颱風本身特性影響外，降雨地區之地文因子亦為影響因素，且這些因子與降雨量間多為非線性相關。本研究係以倒傳遞類神經網路建構一個預測台灣西部之特定雨量站於颱風侵台期間的總降雨量之模式。目前雖已有以倒傳遞類神經網路建構颱風期間即時降雨預測之研究，本文有別於以往之研究，目標為建構一組於颱風侵台前，利用位於台灣東部之氣象站資訊、中央氣象局之觀測資料及預測資料，即可預測台灣西部某特定雨量站於颱風侵台期間所帶來的總降雨量之模式。

關鍵詞：颱風降雨預測、倒傳遞類神經網路。

Establishing a Back-propagation Neural Networks to Forecast the Total Rainfall of a Typhoon Event

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ABSTRACT The abundant rainfall brought by a typhoon event is the main source of precipitation in mid-south Taiwan. Although the rainfall can soften the drought problem in the area, it might also cause a disaster. Typhoon rainfall is impacted by its characteristics and the geomorphic factors of the local area, and most of the factors' correlations with rainfall are non-linearly correlated. There are few researches about the real time forecasting of rainfall during the typhoon event. In this study, our purpose is to build a back-propagation neural networks model which can forecast the total rainfall at a specific area in west Taiwan when typhoon is coming, with the information from rain-gauge station in east Taiwan and the Central Weather Bureau.

Key Words : Typhoon rainfall forecasting, Back-propagation Neural Networks.

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