

臺灣地區颱風特徵未來變遷趨勢

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摘要

文獻中常以颱風數目、生命期、移動速度、颱風強度等特徵來討論颱風的變化，過去研究中對於西北太平洋的颱風特徵變化已有一些描述，但對臺灣地區颱風特徵變化的討論較少。本研究採用 HiRAM 超高解析度模式(解析度 25 公里)的颱風推估資料來探討臺灣地區颱風特徵的未來變遷趨勢，研究的時期分為 20 世紀末(1979-2005 年)、21 世紀中(2040-2065 年)與 21 世紀末(2075-2099 年)，並採用李和盧(2012)的定義篩選出侵臺颱風，以此定義分析臺灣颱風數、影響延時、移動速度與颱風強度的變化，在討論颱風強度變化時，因 HiRAM 所模擬的颱風強度稍有不足，也將經 WRF 動力降尺度的颱風強度資料納入討論。

關鍵字：氣候變遷、侵臺颱風

The Future Change of typhoon characteristics in Taiwan

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Abstract

From the literature review, it is widely discussed in typhoon changes such as typhoon number, life span, moving speed, and intensity. Previous studies have shown some preliminary descriptions of typhoon characteristics in the Northwest Pacific, but less discussion in Taiwan. In this study, typhoon data simulated by HiRAM ultra-high resolution model (with 25 km resolution) is used to explore the future trend of typhoon characteristics in Taiwan. The estimated period is divided into the end of the 20th century (1979-2005), the middle of the 21st century (2040-2065), and the end of the 21st century (2075-2099). We use the definition from Li and Lu (2012) to define typhoons that affecting Taiwan, and further analyze the change of typhoon numbers, duration, moving speed, and intensity. Noted that the typhoon intensity simulated by HiRAM was underestimated, hence, the typhoon data downscaled by WRF was also included in the discussion.