

氣候變遷對於台灣地區颱風降水之影響

Effects of Long-term Climate Change on Typhoon Rainfall near Taiwan

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計畫內容 (Project description)

本研究首先將針對影響台灣地區之颱風，依據其路徑、降水量等特性做分類，並選取數個類似之颱風個案進行分析。同時將使用日本名古屋大學所發展的「雲解析風暴模式」(Cloud-Resolving Storm Simulator, CReSS) (Tsuboki and Sakakibara 2007¹)，分別植入「現今氣候」與「過去氣候」(1950-69 年代) 做為氣候背景場，進行上述各颱風個案之數值模擬。進一步分析數值模擬之颱風降水量、降水特性、颱風環流、及相關物理過程對於不同氣候狀態的敏感度，藉此評估氣候變遷對於颱風降水之影響。

Based on characteristics such as typhoon tracks and rainfall amount, this study will select several typhoon cases near Taiwan for analysis and numerical simulation. The Cloud-Resolving Storm Simulator (CReSS) developed at the Nagoya University, Japan (Tsuboki and Sakakibara 2007) will be used for the high-resolution numerical experiments. Differences in the observed mean climate states between periods of 1950-1969 and 1990-2009 will be calculated and included in the initial and boundary conditions for the numerical simulations of the selected typhoon cases. We will analyze the simulated rainfall amount, rainfall characteristics, typhoon circulation, and related physical processes to assess the effects of long-term climate change on typhoon rainfall.

甄選條件 (Preferred background)

- 大三/大四具備良好英文能力之在學學生
- 具備良好之電腦操作能力 (熟悉 Linux/UNIX 作業系統者尤佳)
- 具備良好程式設計者尤佳
- Senior or junior college students with good English skills
- Strong knowledge/experience in computers (familiarity with Linux/UNIX system would be a plus)
- Good programming skills would be a plus

¹ [Tsuboki, K., and A. Sakakibara, 2007: Numerical Prediction of High-Impact Weather Systems: The Textbook for the 17th IHP Training Course in 2007. Hydrospheric Atmospheric Research Center, Nagoya University, and UNESCO, 273 pp.](#)