

極端氣候情境下颱風災害預警技術研究

The research of the typhoon early warning technology in the extreme climate scenario.

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摘要

在近年防災與應變的實務上發現，極端颱風災害事件的發生，常常造成相當大的社會衝擊，也導致政府遭受莫名的輿論壓力。分析其原因，主要是因為在全球暖化的極端氣候情境下，氣象災害不斷的打破歷史紀錄所導致。因此如何提升極端災害衝擊的評估能力，在災前做好風險溝通，降低民眾災害損失與傷害，才能減少政府輿論壓力。除了上述提及的 0823 熱帶低壓豪雨及 2017 年 0601 豪雨，在西南季風的環境下熱帶低壓與梅雨鋒面導致短延時強降雨是目前台灣水患相當大的威脅，以現行技術均無法準確針對時空進行災害預警，導致科技防災能力飽受質疑。本計畫將針對現行臺灣颱風災害預警技術進行評估，並進行先進技術盤點與引進，針對防災的熱區與易致災區進行災害預報能力的加強。目前有三個方向可以快速提升預警品質的方法，利用新建的降雨雷達網強化現行暴雨監測技術與產品開發，針對災害熱區與易致災區強化颱風災害的監測與風險判識；結合國內外優秀技術提升極端氣候情境下暴雨的預報能力；透過先進智能智慧方法強化大數據之運用，提升氣象預報與災害預警服務品質。

關鍵詞：颱風、洪水、降雨雷達，預警技術

Abstract

In recent year, the occurrence of extreme disaster during typhoon often caused huge social impact and heavy pressure of public opinion. The main cause is that weather disaster continue to break the history recode during the global warming. In order to decrease the pressure of government on the public opinion, the government need enhance the capability of situation assessment and the communication for public to reduce the people's losses and injuries. Under the environment of southwest monsoon, the tropical depression and Mei-Yu induced the heavy rainfall in short-duration is larger threat for flooding disaster in Taiwan. None of the current technologies can accurately warning against disaster, causing the capabilities of the disaster prevention S&T to be questioned. The Taiwan current early warning technology of flooding disaster is evaluated in this plan. Also the advanced technologies of flooding early warning is make an inventory and conduct application. To be enhanced the flooding prediction capabilities at hot spots. There are currently three ways to quickly improve the quality of early warning, include 1) To strengthen monitoring and assessment for flooding using the new rainfall radar network. 2) To enhance the ability to forecast the heavy rainfall in extreme climate scenarios. To improve the weather forecast and disaster early warning services using the big data through advanced intelligent technologies.

Keywords : typhoon, flooding, rainfall radar, early warning technology.