

108 年洪水預警服務支援及智慧防汛系統研發應用

Development and Application of Flood Warning Service and Intelligent Flood Prevention System in 2019

主管單位：經濟部水利署

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摘要

本計畫之目標為因應水利署於防汛時期之水情預警決策支援需求，提供氣象水情資訊介接、彙整、展示之服務，並以蒐集資訊為基礎進一步加值應用，研發各式自動化模組與智慧化系統協助預警研判，讓使用者用以評估未來水情與災情發展趨勢，作為擬定防災整備與應變調度方案之參考。

例行性之服務與維護工作，包含於颱風時期擔任水利署防災中心對各河川局洪水預報團隊之聯絡窗口，協助彙整各河川局提供之洪水預報資訊，並依水利署應變小組需求製作簡報；精進水利防災水情預警資訊系統，更新基礎資料，整合空間降雨資訊、展示多來源之河川水位預報；維護前期計畫建置之降雨伺服器，接收及解析氣象局最新降雨預報產品，並將南屯防災降雨雷達資料納入既有作業流程中。

技術研發工作部分，包含開發自動化訊息推播系統，彙整水情相關資訊，主動發送預警訊息通知防汛相關人等，增進應變效率；於類似路徑歷史颱風專家預警系統擴充使用者自訂路徑功能，能即時搜尋不同颱風路徑下，相似路徑之歷史颱風對臺灣地區造成之降雨及災損情形；研發降雨預報校正方法，以觀測降雨修正預報產品可能存在的系統性誤差，並將其產品化後提供給相關單位參考使用。

關鍵詞：洪水預警服務、智慧防汛系統、降雨預報應用

Abstract

To fulfill the needs of flood early warning for Water Resource Agency(WRA) during flood season, the project executes the forecast data reception, collection and display including precipitation and water level, etc. Furthermore, the project analyzes aforementioned data and develops automation modules and intelligent systems to provide forecast information to users. The results may seem as the reference of disaster prevention preparation and contingency planning.

Regular service and maintaining works include collecting the flood forecast information from ten river management offices and integrating them into a brief document based on specified form for decision support; optimizing the hydro forecast information integration

display platform such as updating the basic information, adjusting layout of platform based on needs, integrating spatial rainfall information to show water level forecasts from multiple sources; resolving the data of dual polarization radar at Nantun and integrating it into current rainfall data providing workflow and display platform; and maintaining forecast rainfall data providing server to enhance the stability of rainfall data processing flow.

Technology research and development works include building an automated information dissemination system which collect water-related information and proactively send early warning messages to inform the relevant personnel; expanding the user-defined path function in the early warning expert system based on typhoon track to instantly search for the rainfall and damage caused by the historical typhoon under different typhoon paths to Taiwan; developing a rainfall forecast correction method to find the possible systematic errors of the rainfall forecast product based on observation data, and provide the adjusted product to the relevant units for reference.

Keywords : Flood Warning Service, Intelligent Flood Prevention System, Application of Rainfall Forecasting.