

建構臺灣海象及氣象災防環境服務系統(2/4)

Construction of Taiwan Marine and Meteorology Disaster Prevention Information Service System (2/4)

主管單位：交通部

滕春慈

陳嘉榮

Terng, Chuen-Teyr

Chen, Chia-Rong

交通部中央氣象局

摘要

「建構臺灣海象及氣象災防環境服務系統」計畫為四年期計畫，執行期間為民國 106 至 109 年，上承現代化海象暨氣象觀測，下接多元化氣象服務管道。計畫整合各種海洋、大氣與陸地觀測數據資料、預報及災防資訊，研發海象暨氣象相關應用技術與災防預警產品，以擴大海象暨氣象資訊之使用社群，強化海象暨氣象災防產品之服務與增值應用。計畫內容主要包含五大項目，(一) 建置近岸區域海象預報整合子系統、(二) 建置西北太平洋海象資料庫與臺灣海象災防服務平臺、(三) 開發新式衛星與雷達衍生產品、(四) 發展未來 3 小時災害性天氣之鄉鎮尺度定量降雨預報技術、(五) 強化中央氣象局衛星產品展示平臺。

本年度(107 年)為第 2 年工作，計畫期間完成(一)發展與建置 2 維浪潮偶合暴潮模式，改進單一暴潮模式模擬誤差；完成波浪預報監控系統，提升預報作業效率。(二)擴充西北太平洋海象資料庫，提供 24 項國際海域地理資訊圖資與 9 項開放資料服務，促進海象資料在產、學、研應用，「臺灣海象災防環境資訊平臺」上線服務，提供海運區域波候、海岸潮線預報、海洋溢油漂流預報等地理資訊圖資服務，提升各機關海域災害防救效率。(三)完成衛星對流起始偵測、衛星飛機積冰警示、衛星雲頂相態等 3 項遙測應用產品，減少防災、緊急救援前置作業時間、新增臺中南屯防災降雨雷達資料導入。(四)改進雷達定量降雨估計方法，並完成午後雷陣雨與綜合天氣型態之 0-1 小時對流啟始可能性預報產品顯示，並開發即時預報產品顯示網頁。(五)完成本局對外服務衛星產品整合平台與遙測數據資料儲存系統暨其相關設備擴充，增進遙測資料之應用效能與服務。

本計畫強化預報能量與引進資料處理技術及開發災防增值應用產品，提供更為即時的災害預警資訊，增加了政府防災單位與大眾應用的效能，增進民生之福祉。

關鍵詞：氣象資料災防應用、暴潮預報、海象資料、西北太平洋、氣象衛星資料、對流降雨

Abstract

“Construction of Taiwan Marine and Meteorology Disaster Prevention Information Service System” is a four-year project since 2017, which aims for a modern marine and meteorology monitoring and diversified information service. In this project, we integrate various observation data from marine, atmosphere, and land, and assorted forecast and disaster preventing information in order to strengthen Central Weather Bureau (CWB) products, services and value-added applications.

The project is consisted of 5 main tasks. (1) is to construct a better inshore marine meteorology integrated forecasting technique, (2) is to build up a Northwest Pacific marine database and a marine disaster preventing system of Taiwan, (3) is to develop new Satellite and radar products, (4) is to deliver 3-hour Quantitative Precipitation Forecast product, and (5) is to strengthen CWB’s platform for Satellite products.

In 2018, we made several achievements, such as (1) Build up a 2 dimensional wave, tide and storm surge coupled model, and strengthen wave evaluation method to improve forecasting ability., (2) 24 type of geospatial information for northwest pacific marine database, 9 type of open data for public, and 3 application products about oil splitting technique, marine ocean wave statistics, a low and high tide boundaries along coastal, etc. (3) 2 satellite application products about aircraft Icing Threat and Cloud Phase, a Convective Initiation detection technology, etc. (4) Improve radar precipitation quantitative forecast technique, and 1 hour convective initiation technique on mixed type weather regime, and (5) the satellite products integration service platform for public and data storage system.

In order to strengthen the forecasting capabilities and providing a real-time early warning service on an extreme weather event, we integrated the various type of data and introduced advanced data processing technologies. Anticipatedly, we can improve the efficiency of government disaster preventing and the application value for the social public, and ultimately, increase the welfare and happiness of people.

Keywords : Meteorological Data Approach for Disaster Management, Surge Forecast, Marine Meteorological Data, Northwest Pacific, Meteorological Satellite Data, Convective Rainfall.