

臺灣海域三維海流作業化預報模式之 精進近岸網格系統海象分析

A study of the three-dimensional ocean current model in Taiwan by refined the alongshore grid

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摘 要

臺灣海域三維海流作業化預報模式(Ocean Current Model, OCM)與中央氣象署海象氣候組合作發展，每日產出四日海象預報資訊，共16組海流、海溫、海高等相關產品提供下游廠商使用。OCM以半隱式法非結構式網格海流模式(Semi-implicit Cross-scale Hydroscience Integrated System Model, SCHISM)為基礎，其非結構式網格特性能在近岸解析度較小、而遠洋解析度較大，能有效利用計算效率。近年配合中央氣象署積極提供近岸遊憩相關海象資料，從2019年起，將原解析度一至二公里精進至200公尺，包含澎湖海域、墾丁南灣海域、東北部海域、西南部海域、金門、馬祖、綠島、蘭嶼、基隆港、蘇澳港及花蓮港。本研究將著重在近岸三海浬、各大商港及彰雲風電海域，精進解析度後與觀測值之比對分析，未來以完善並精確提供臺灣沿岸三海浬內之海象資訊。

關鍵字：臺灣海域三維海流作業化預報模式、精進解析度、近岸遊憩

Abstract

A 3D ocean current forecast model system operation (OCM) is developed in collaborate with the Marine Meteorology and Climate Division, Central Weather Administration (CWA). OCM daily provides the 4-day forecasts, and 16 sets of ocean current data provides to the relevant authorities. OCM is based on the Semi-implicit Cross-scale Hydroscience Integrated System Model (SCHISM). SCHISM is an unstructured model which capable refined resolution along the coast which can be efficiently operated. In the recent years, our team actively cooperate with CWA to provide more nearshore recreation data for the public. Since 2019, the resolution is refined from 1~2 KM to 200 meters, including the seas around Penghu, Nanwan Bay, Northeast, Southwest, Kinmen, Matzu, Green island, Lanyu island, Keelung harbor, Suao harbor, Hualien harbor. The study will focus on the 3 nautical miles near the shore, each commercial harbors and the Changyung wind farm area, and analyze the difference with observation after refinement. In the future, OCM will provide the integral and precise ocean data near the 3 nautical miles coast.

Key words : Ocean Current Model, refinement grid, the recreation near shore