



A regional ocean current forecast operational system for the sea around Taiwan

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Ocean current prediction is an important and a challenging task on marine operational forecasting system. This has been a widely developed subject in recent year internationally. The system can provide information to various applications, i.e. coastal structure design, environment management, navigation operation, fishery and recreations. Another potential application of the current prediction is to provide information for marine rescue and emergency response. Through the aid from high performance computing techniques, ocean current forecasting can be efficiently operated within a feasible time by covering a wider domain of operation and with higher resolution. A multi-scale Regional Ocean Current Forecast Operational System (ROCFOS) is developed at Central Weather Bureau (CWB), Taiwan, since 2008. The system has coupled 4 different scales of model domains together, from the Pacific to the seas around Taiwan. The modeling system has been constructed based on ROMS and SELFE and implemented for daily operation. The system is re-initialized with HYCOM and RTOFS daily forecast and driven by meteorological predictions from NCEP GFS and WRF developed at CWB. Satellite data from GHRSSST and AVISO are used the calibration and the verification of model results. An NCAR/ncl tool was also developed to process both structured and unstructured data. The modeling system and the analysis of the operational results will be presented.