Providing Ocean Forecast Products during Unmanned Warrior 2016

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A coupled nested ocean-wave modeling system supported the Unmanned Warrior 2016 Exercise in LochAlsh, Scotland for the period of September 10 – October 16, 2016. Utilizing available bathymetry from the UK Hydrographic Office and shallow-water bathymetry collected in April 2016, a 250 m host and 46 m inner nest of the coupled Navy Coastal Ocean Model (NCOM) and the Simulating Waves Nearshore (SWAN) model were run twice daily with atmospheric forcing from a nested 3/1 km Coupled Ocean Atmosphere Mesoscale Prediction System (COAMPS). The coupled system was run twice per day producing 72-hr forecasts of ocean currents and wave heights for the exercise operating areas. The model forecasts were used to provide guidance in mission planning for the use of unmanned underwater vehicles in the Kyle of LochAlsh. We show comparisons of the NCOM's tidal prediction versus tide gauge data and modeled currents versus ADCP data collected during the exercise.