



Science and Technology Seminar



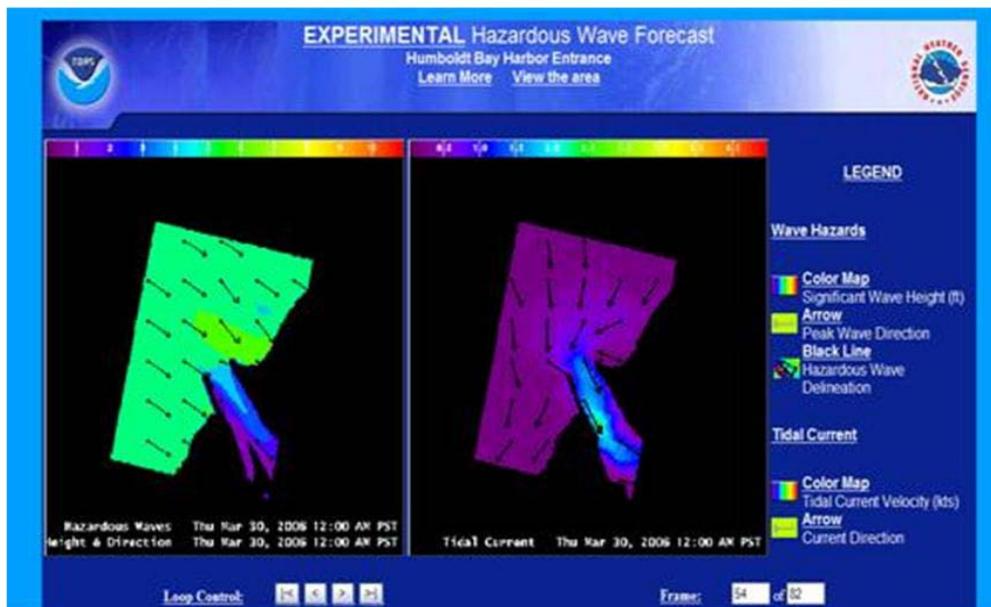
NWS Local Wave Modeling and the Marine Customer

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Over the last several years, numerous changes to the NWS operational forecast environment have been introduced. The impacts of these changes have been felt in all aspects of forecasting, but maybe nowhere more so than in the forecasting of waves. In the marine environment, wave observations are a treasured commodity and wave model domain, resolution and options are often limited. Consequently, customer and forecast demands have become increasingly difficult to meet.

The Eureka, CA WFO, through the Coastal Storms and COMET Programs, has taken the initiative to address its forecast challenges and the needs of its customers for wave information. Eureka has integrated a high resolution nearshore wave model (SWAN) into its gridded forecast process. The Eureka, CA WFO has also incorporated the operational wave model of the NWS (WaveWatch III) as the boundary conditions for its nearshore model. In addition, forecaster-derived wind fields (from the GFE) at 5-km resolution are the primary input to the SWAN model, thereby producing spatially consistent wind and wave grids for the NDFD. Collaboration with a nearby academic institution has allowed Eureka to create smaller domain (higher resolution) model nests for a harbor entrance which includes coupling with a hydrodynamic circulation model. The Office is also applying some cutting edge technology in wave spectrum partitioning to output grids which could potentially lead to a whole suite of new products from these grids. This seminar will discuss these advances and what they can mean for the marine customer.



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