

## **Wave Input and Dissipation in WAVEWATCH III with Wave Breaking and Sea Spray Forecasts**

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In this talk we discuss the development of new input and dissipation source terms to incorporate recently developed physics into operational wave models. The input source term includes the effects of sheltering of the input to smaller waves by larger waves, as well as known physical constraints such as drag coefficient. The dissipation term is based on a thresholded breaking wave energy dissipation term, with background turbulence, and is used to forecast the breaking crest length per unit area, and the total energy dissipation. We compare results in both idealized and case study simulations under various forcing conditions using WaveWatch III. We will examine the source terms' effect on a set of wave parameters which include: wave height and period, ustar and drag coefficient, and directional spreading, and wave breaking properties.