

## **Extreme wave parameters under North Atlantic extratropical cyclones**

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A characterization of extreme wave parameters during extratropical cyclones in the Northern hemisphere is made from WAM wave model hindcasts. In February 2007 two extratropical storms were observed in the North Atlantic and the wave fields associated with them are modeled in this paper. Wave buoy and satellite altimetry data were used to validate the WAM hindcast results. The distribution of the Benjamin–Feir index (BFI), kurtosis and the ratio of maximum wave height to significant wave height (abnormality index) around the eye of the two extratropical cyclones is studied. It is found that under these conditions the BFI and kurtosis are significantly larger mainly in the fourth quadrant and also when the wind direction is aligned with the wave propagation direction. In these regions the probability of occurrence of abnormal waves is higher.

Joint work with Carlos Guedes Soares