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Oceanic Whitecaps: Good or Bad?

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ABSTRACT

Climate change studies need accurate global maps of different parameters to understand ocean-atmosphere interaction. Satellite-born instruments routinely provide such data on the basis of remotely sensed environmental quantities. Each element comprising the ocean-atmosphere system contributes to the signals registered by satellite sensors. Some of these contributions are essential for measuring a desired climatic parameter, others are unwanted perturbances. What is the role of the oceanic whitecaps in such measurements?

My presentation will describe oceanic whitecaps, their properties, and the changes in these properties due to various meteorological conditions. I will highlight the differences in the remote sensing signature of whitecaps for different satellite instruments. Finally, I will show how the presence of white water can be useful or disturbing for measuring oceanic surface wind speed, sea surface temperature, oceanic productivity, and atmospheric aerosols.