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Simulation of Sea Surface Temperature Trends Under Severe Wind Forcing With a Full Atmosphere-Ocean Coupled Model

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A Regional two-way Atmosphere/Ocean Coupled Model (TWAOCM), developed by our joint research team, has bee applied to a stron wind episode (Bora) occurred in the Northern Adriatic Sea. TWAOCM showed a significantly better ability to simulate the observed values of Sea SurfaceTemperature (SST) and their time trend during the whole development of the episode in comparison with a simpler model using only a One-Way atmospheric forcing of the Sea. This result is very interesting and important not only concerning possible application of TWAOCM as a precursor model for future operational prediction schemes of the state of the Sea, but also because it revealed the importance of the ocean forcing of the atmosphere, which was unexpected due to both the high frequency variability conditions that are typical of short and severe Bora wind events, and the shallow ocean layer in the northernmost regions of the Adriatic basin.

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