
Toward an improved simulation of ocean-atmosphere interactions

Maria Kazakova*¹ and Gaël Richard²

¹Institut national des sciences appliquées Rouen Normandie (INSA Rouen Normandie) – LMI – France

²Laboratoire des Écoulements Géophysiques et Industriels [Grenoble] (LEGI) – Institut Polytechnique de Grenoble - Grenoble Institute of Technology, Centre National de la Recherche Scientifique : UMR5519, Université Grenoble Alpes – France

Résumé

The interactions between atmosphere and ocean play a major role in many geophysical phenomena, covering a wide range of temporal scales (e.g. diurnal cycle, tropical cyclones, global climate...). Therefore the numerical simulation of such phenomena require coupled atmospheric and oceanic models, which properly represent the behavior of the boundary layers encompassing the air-sea interface and their two-way interactions.

However deficiencies exist in current ocean-atmosphere coupled models, both in the formulation of the physical parameterizations in the vicinity of the air-sea interface, and in the algorithmic approach used for the coupling.

This talk will address these two aspects, with the objective of achieving a mathematically and physically more consistent ocean-atmosphere coupling.

*Intervenant