



A drag induced instability in air-sea interaction

Aimie Moulin (1) and Achim Wirth (2)

(1) LEGI/ Université de Grenoble, France, (2) LEGI / CNRS, France

We demonstrate using a numerical model based on two-superposed shallow water layers, corresponding to the ocean and the atmosphere, at fine resolution, that the frictional interaction, parametrised by a quadratic drag law, can lead to instability. When the interaction is one-way, only from the atmosphere to the ocean, the instability is restricted to the ocean. For two-way inter-action instability also affects the atmosphere and its scale and magnitude is strongly amplified in the ocean. Analytical calculations used to depict the origin of the instability, agree well with the numerical results.