



## **FLake model at global scale: offline settings and evaluation of the impacts when coupled to the global circulation model CNRM-CM5.**

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The lake model FLake is a key component of the Météo-France's land surface modeling platform SURFEX. Results from global offline simulations are presented for the largest lakes in order to evaluate the model performance in different climates and define an optimal model configuration at global scale. The model was forced by ERA-Interim (1980–2012) near surface variables and evaluated against satellite measurements from ARC-Lake database for lake surface temperatures and ice cover. The optimal set of parameters, among which lake depth limitation, albedo of ice, light extinction coefficient, was derived from these offline simulations. The model was then coupled to the global CNRM-CM5 model and the impact of the use of FLake on the coupled model was evaluated.