



## **Performance of the lake model FLake in the Canadian Regional Climate Model, version 5 simulations over two CORDEX domains - North America and Africa.**

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The Canadian Regional Climate Model, version 5 (CRCM5), has been used for simulating the climate over two CORDEX domains for the 1989-2008 period, using the ERA-Interim reanalysis boundary forcing. The interactively-coupled lake model FLake was used for simulating the thermal regime of lakes in these experiments. Both simulations were performed with identical lake model settings and initialization conditions. The performance of the coupled FLake model for different climatic regions, going from arctic to equatorial conditions, was assessed by comparing with observations, where available. It was shown that for a wide range of lakes and climate zones the FLake model is capable of reproducing satisfactorily the water surface conditions. Limitations of the model and possible application of the coupled FLake model to inland seas in different climate zones will also be discussed.