



## **Lakes and lake effects in the Met Office Unified Model**

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The Met Office Unified Model (UM) was modified to allow coupling with the FLake lake model, for an alternative representation of inland water in the Global model. Global trials indicated that the default aerodynamic coupling was too weak in some mountainous areas, resulting in anomalous permanent lake-ice cover. Tests and modifications to both models were carried out to investigate and address this problem. The findings will be described, along with the implication for land-surface modelling within weather models.

Following these investigations, the coupled UM-Flake model was successfully trialled in climate simulations and forecasting case studies, as a preparation for operational use. However, this implementation was subsequently ruled out because of concerns over licensing. The trial results and the licensing issues will also be discussed.