



A quick fix for the wet deposition cloud mask in FLEXPART

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In Version 8 of FLEXPART, a more sophisticated wet deposition scheme has been introduced, differentiating between in-cloud and sub-cloud scavenging. A four-dimensional cloud mask is required for this purpose. Unfortunately, the initial implementation did not correspond to the numerical treatment of precipitation, and it did not consider the specific problems associated with convection. A preliminary fix for these problems has been introduced. This fix allows to interpolate the cloud mask in a way that corresponds to the numerical treatment of precipitation as much as possible. A standard cloud is used for convection if no proper resolved-scale cloud is recognised. In all other cases where the algorithm fails, the fix reverts to the simple scheme used before version 8. An outlook of work that needs still to be done in this context will be included.