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How to Use the FLEXPART Model in Atmospheric Transport Modelling Challenges

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The "Flexible Lagrangian particle dispersion model" FLEXPART is used in the IDC as well as by many of the participants in the Atmospheric Transport Modelling Challenges. As a truly flexible model, it may be used in forward and backward mode and it has many other parameters that can be set by users. All of these options influence the CPU and memory requirements as well as the accuracy of the output. For example, if we consider only a small number of stations and daily or half-daily samples, but are interested in a large number of of possible emitters and/or emission time slots, backward simulations will usually be more efficient. There is also the option of using gridded output or a point receptor with a sampling kernel. Number of particles and model time steps also influence both the resources required and the results. For the ATM Challenge 3, certain modifications have been implemented in FLEXPART version 10 to make full use of possible combinations of options. Pertinent findings and recommendations will be reported.

Promotional text

FLEXPART users will be assisted to better understand the options for organising and setting up simulations for complex or compute-intensive tasks. ATM challenge 3 will be used to compare options, derive recommendations, and make trade-offs involved more transparent.

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