

Development of Software Simulation Pipeline for High Resolution Atmospheric Transport Modelling

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The Flexpart Atmospheric Transport Model (ATM) is traditionally driven by ECMWF and GFS meteorological model inputs. Flexpart-WRF is a variant of the standard model that accepts a wide range of Weather Research and Forecasting model (WRF)-generated meteorological inputs to support very high resolution simulations over customized domains. The chain of activities needed to produce custom meteorology files from WRF and make them available to Flexpart-WRF for a successful simulation is complex and prone to failure for a number of reasons, and the work described here is aimed at packaging all of the complexity into an easy-to-use system. Building on the experiences gained from an exploratory prototype system built several years ago, this Enhanced High Resolution Atmospheric Transport Model (EHRATM) system is being developed in a Python-driven environment to support simulations ranging from relatively simple and straightforward, to complex simulations with special requirements. Adopting the philosophy of some other well-known Python packages, our goal is to “make easy things easy and hard things possible.” This work is ongoing, and the presentation will describe a detailed overview of the project and its current status.

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Promotional text

This is an overview of an ongoing project to build a robust, easy to use, high resolution Atmospheric Transport Modeling (HRATM) system for custom, high resolution scenarios.

Oral preference format

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