

1.3-P07. Impact of higher resolution meteorological fields on the results of atmospheric transport modelling

Numerical modelling aims at providing solutions to mathematical equations describing physical phenomena. Already the mathematical models are approximations of reality. Additional simplifications are introduced while performing calculations using finite, spatial or spectral, discretisations of mathematical equations. Furthermore, non-resolved scales need to be parameterised. In this presentation we will focus on the significance and impact of model resolution in the context of atmospheric dispersion. In particular, we will discuss how this notion differs for Eulerian in nature meteorological fields and Lagrangian atmospheric transport models. We will give an overview of the employed parameterisations of sub-grid scale processes. We will present modelling results obtained using the ECMWF meteorological fields at varying resolutions. The computational domains for these studies were selected in connection with the location of the radiopharmaceutical facilities impacting IMS stations, namely in Western Europe and south-east Australia.

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