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A New Preprocessing Tool of Ecmwf Data for Calmet Forecasting Simulations

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Abstract

Today, strategies for emergency preparedness, in presence of accidental scenarios in high-risk plants with releases into the atmosphere, have become a priority. To achieve this goal, it is important to have forecast meteorological data in local areas to use in dispersion and transport models and so to respond in advance emergency situations. The paper reports results of research performed to develop a new tool, called FORCALM that is capable to elaborate European Centre for Medium-Range Forecasts (ECMWF) forecast data to use for simulations by CALMET/CALPUFF modeling system. A case study, relevant to an accident occurred in Mediterranean Refinery at Milazzo (Italy), has been examined to validate the procedure and the capacity to evaluate the transport and depositions pollutant in terms of forecast information. The results were compared with those obtained using CALMET/CALPUFF simulations based on measured meteorological, covering the area under study.