



## **Atmospheric transport modelling for the Schauinsland station: impact of resolution of meteorological fields and conclusions for CTBT monitoring**

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Schauinsland is a radionuclide monitoring site in the Black Forest, a mountainous region in southwest Germany where a national and a CTBTO-IMS radionuclide stations as well as a regional background station of the Global Atmospheric Watch (GAW) are operated. Several episodes covering all relevant meteorological conditions have been simulated with the MM5 model in a nested mode with 0.67km resolution in the innermost domain. Receptor-oriented atmospheric transport modelling was carried out based on the MM5 output as well as 1° resolution fields from ECMWF. It was found that for certain weather conditions significant difference between these two calculations can occur. For strong inversion conditions as found during anticyclonic weather in the cold season, ECMWF-based calculations fail to give useful results. Under southwesterly wind conditions, ECMWF-based calculations strongly overestimate the influence of regional sources. Under northwesterly wind conditions, relatively minor differences were found. Backtracking of anomalous radionuclide observations in the CTBT-IMS radionuclide network should consider the representativity of available wind fields for each observation.

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