

Probabilistic forecast of thunderstorms – application to Bucharest area and surroundings

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Since 2003 the Romanian Lightning Detection Network (RLDN) provides real time lightning data for the Romanian territory and surroundings. Statistical models were developed to predict the probability of lightning around Bucharest for the months of May-September. The predictors were derived from atmospheric sounding data recorded daily at Afumati station. Logistic regression was used to develop the forecast equation of probabilities for different types of lightning activities.

The lightning and atmospheric sounding data from 2003 to 2005 were used to obtain the probabilistic equation. Between 1 and 30 June 2006 this probabilistic forecast was tested in operational conditions, using the outputs of ALADIN-Romania model. In this paper are presented the first results of this probabilistic forecasting technique applied at the Romanian National Meteorological Administration.