



Analysis of a fog event: From the synoptic scale to local features

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During the time period between 26 and 29 November 2007, Central Europe is under the influence of a high-pressure system with relatively warm air masses: daily maximum temperature is between 4 and 10 C at surface. Many European locations experience fog at that time. In many cases, fog is persistent (up to 60 hours) and dense, limiting visibility even below one hundred meters, disturbing people's activities and especially air traffic. The anticyclone's center moves from the Black Sea (on 26) towards West Ukraine (on 29), slowly getting stronger. The high-pressure system drives warm and humid air masses from the Mediterranean Sea towards Central Europe. Warm advection is especially marked on the 850-hPa baric topography charts. Aerological soundings show a strengthening temperature inversion. In the beginning of the period, fog or haze forms at night or at dawn and lasts only for a few hours. Day after day, while the pressure gradient decreases, the number of locations with fog grows and the fog duration gets longer. In the framework of the EU COST Action 722, there is a cooperative project of the Polish and the Spanish Meteorological Institutes on the use of a single-column numerical model for short-term fog and low clouds forecasting. The model, called H1D, is operationally run four times daily for several European airports. In this communication, the ability of the model to reproduce the local features of a synoptic-scale fog event is assessed.