



## **Dust aerosol monitoring over south of Romania. Trajectories and air mass analysis**

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Mineral dust plays an important but poorly quantified role in the climate system. It is one of the most abundant aerosol species in the atmosphere and has an important but complex role in determining the shortwave and longwave radiation budgets. Dust also has an indirect role through its influence on cloud properties. Sahara desert (Africa) is known as one of the major sources of natural mineral dust in the atmosphere. Our study aim at monitoring of Sahara originating air mass trajectories and air mass analysis over the south of Romania territory and adjacent regions in order to detect their impact on regional and local climate. For the air mass trajectory monitoring we have used the NECEP/NCAR reanalysis data for the period 1991-2006. The NOAA hybrid single particle lagrangean integrated trajectory - HYSPLIT model has been used to calculate the trajectories of air masses originating in two locations over Sahara (19.0N; 5.0E) and (28.0N; 28.0E) and reaching the south of Romania. For air mass analysis we have used the AMA products of SAFNWC applied for satellite data for the period April 2005 - April 2007. The results on monthly statistics of trajectories and air masses characteristics can help in better understanding the role of dust aerosol on climatic processes over the south of Romania.