Automatic 1958-2007 daily weather pattern classification applied to an analysis of climatic conditions of wildfires in eastern Belgium.

M. Erpicum (1), X. Fettweis (1), G. Mabille (1) and L. François (2)

(1) Laboratory of Climatology and Topoclimatology, Department of Geography, University of Liège, Belgium, (michel.erpicum@ulg.ac.be) (2) Climate and Biogeochemical Cycles Modelling, Astrophysics, Geophysics and Oceanography Department , University of Liège, Belgium

The daily weather pattern classification is founded on a 100 km regular grid centred on Belgium. The geopotential heights of 500, 850 and 1000 hPa levels were extracted from the ERA-40 database on the period 1958-2002 and from ECMWF operational analysis until the end of year 2007. The classification was based on a similarity index calculated on the orientation of exaggerated slopes of different daily geopotential fields. Wildfire occurrences were analyzed in April and September (which are the two months with the most frequent fire-days in Belgium) together with monthly frequencies and persistences of daily weather pattern classes as well as with yearly variability of weather patterns climate conditions.