



Long-term seasonal variability of convection, and aviation hazard risks over Europe

Abdullah Kahraman (1) and Zafer Aslan (2)

(1) Department of Meteorological Engineering, Faculty of Aeronautics and Astronautics, Ondokuz Mayıs University, Samsun, Turkey, (2) Department of Computer Engineering, Faculty of Engineering, Istanbul Aydın University, Istanbul, Turkey

Deep moist convection (DMC), and related hazardous phenomena, such as turbulence, lightning, wind shear, icing, hail, tornadoes, and downbursts, are particularly important in aviation. They are responsible from a big portion of aircraft accidents related to weather. A climatology of DMC in greater European domain is prepared using ICTP SPEEDY model, including its long-range variability through decades, geographical distribution, and seasonal/diurnal behaviour. Results are compared with thunderstorm observations. DMC-related hazardous weather phenomena affecting aviation are also investigated using proper proxies from model output, in order to assess the risks.