



Effects of variable cirrus-shading on convective initiation during CSIP IOP 5

J. Marsham (1), C. Morcrette (2), A. Blyth (1), K. Browning (3), U. Corsmeier (4), N. Kalthoff (4), M. Kohler (4), E. Norton (5) and D. Parker (1)

(1) University of Leeds, UK (2) The Met Office, (3) University of Reading, UK (4) Universität/Forschungszentrum Karlsruhe, Germany (5) University of Manchester, UK (jmarsham@env.leeds.ac.uk / 44 (0)113 3436716)

Predicting the location and timing of the initiation of convective storms remains a major challenge for numerical weather prediction (NWP). The recent Convective Storm Initiation Project (CSIP) has provided an unprecedented opportunity to improve our understanding of the mechanisms leading to convective initiation in the mid-latitude maritime climate of the UK. CSIP has highlighted the variety of mechanisms responsible for convective initiation in the UK, and the dependence of the predictability on the mechanisms involved.

Results from the 29th June 2005 (CSIP IOP 5) show that on this day shading from orphaned cirrus anvils significantly affects boundary-layer development. In addition, gaps in the cirrus cover were sufficient to affect convective initiation, despite their small size (approximately 30 km diameter) and the movement of the cirrus relative to the ground. This provided a significant limitation on the predictability of this case, since NWP models cannot be expected to give long lead times on the detailed evolution of upper level clouds, especially the inhomogeneous anvils from earlier convective storms.