For Details, Contact:

Peter Becthold

Laboratoire d'Aerologie, Observatoire Midi-Pyrenees,
31400 Toulouse, France

Email. Peter.Bechtold@aero.obs-mip.fr

Conference on European Tornadoes and Severe Storms

Problems and achievements in modelling/forecasting of atmospheric convection

P. Bechtold and E. Bazile#*
**Laboratoire d'Aerologie, Observatoire Midi-Pyrenees,*
31400 Toulouse, France, #Meteo France CNRM/GMAP, 42 av. Coriolis,
31057 Toulouse Cedex, France

It is generally thought that convective activity is, depending on the horizontal grid size of the model, a parameterizable and/or resolvable phenomenon.

Therefore, a "good" meteorological forecast of mesoscale convective activity (where e.g. surface precipitation amounts are often used as a measure of skill) critically depends on two major issues: i) the initial conditions, especially the moisture analysis, and ii) the convection parameterization used in the forecast model.

Here our objective is to discuss the ability of current forecast models (including state of the art convection parameterizations) to represent typical deep convective events in the midlatitudes. Results are presented using the operational global model ARPEGE/IFS and its limited area version ALADIN. The study focuses on a discussion of typical european convective environments, i.e. the large scale forcing of convection, and the associated convective soundings. These soundings are also compared to Tornado soundings as observed in the U.S.