

The RAL Seminar Series



NCAR

Numerical Prediction of Thunderstorms Where Are We Now?

by

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Foothills Lab, Building 2, Auditorium, Room 1022, 3:30 p.m.

It is fifteen years since the first attempt at numerical prediction of an observed thunderstorm. Similar to the initial attempt at synoptic-scale prediction by L.F. Richardson, the first storm prediction quickly went awry. However, in the last fifteen years significant progress has been made in both storm-scale initialization and short-term prediction of moist convection. In this talk, I will describe some of that progress, as well as some of the challenges ahead.

The field of numerical storm prediction can largely be decomposed into two main problems; convective-scale initialization and the effect of the large-scale on the convective scale. For the first problem, I will describe some of the progress that has been made by showing examples of field and parameter retrieval as well as examples of short-term (0-2 hour) forecasts of convection. It will be shown that storm-scale NWP has the ability to improve over simpler techniques based on spatial extrapolation of existing radar echoes. The second problem, that of the interaction of large-scale and convective-scale motions, remains a significant challenge. I will conclude the talk by examining the possibility of using convective-scale data to project back on to the larger scale.