## RADAR,   Routine :   13 July 1999, 14 UTC
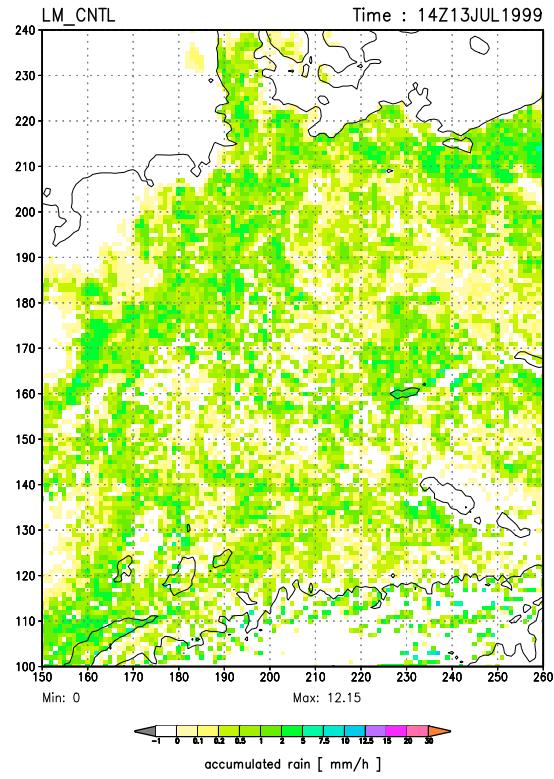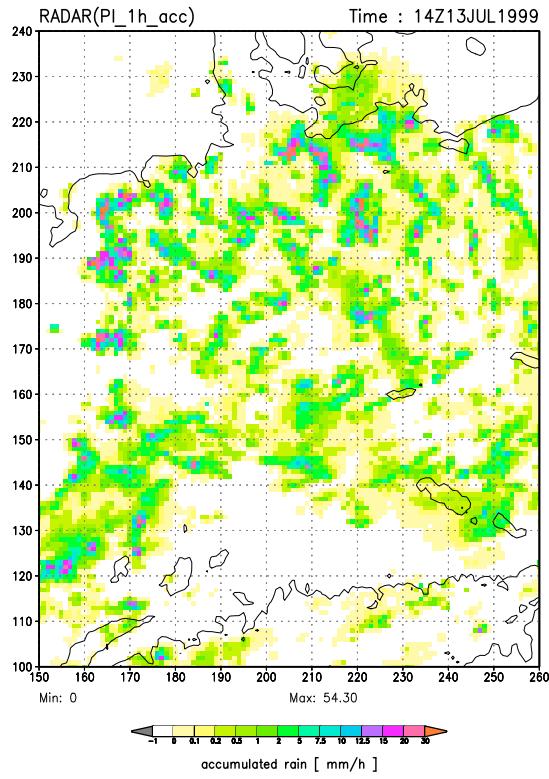
## LHN runs :   12 July 00 UTC + 36h LHN + 2 hours
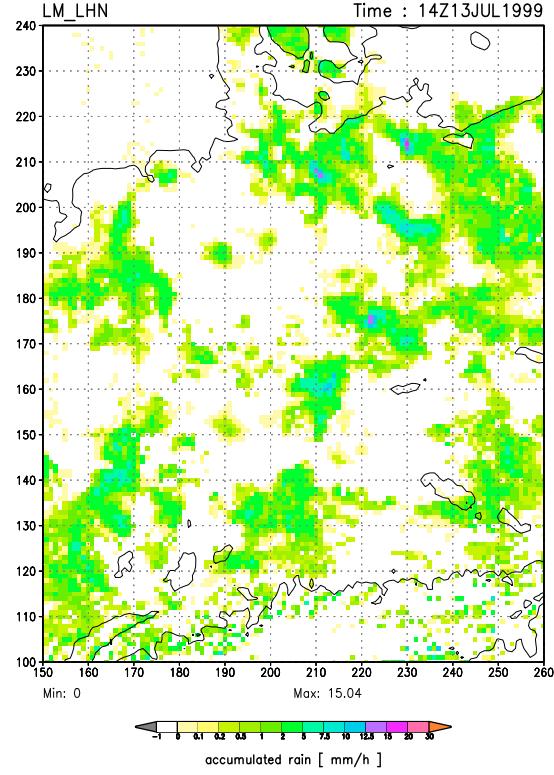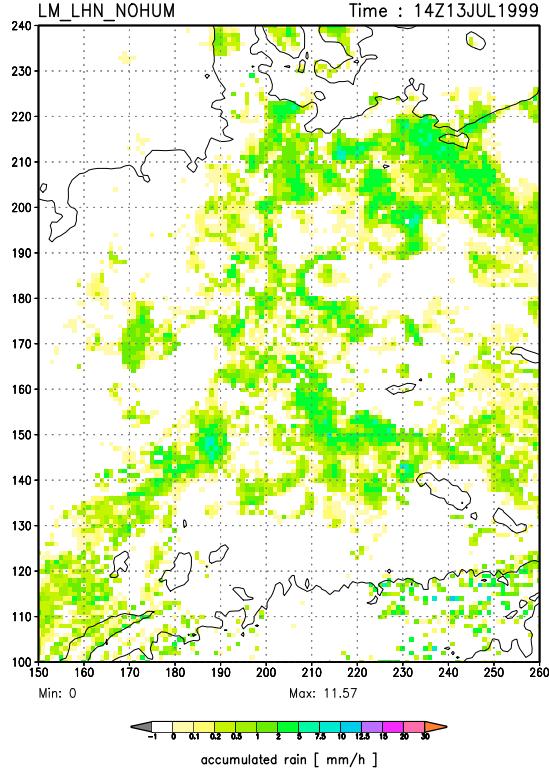
Figure 5: Rain accumulated during hour preceding 14 UTC on 13 July 1999 from radar and model runs at 7 km resolution.. Top left: derived from radar, top right: control model run without LHN, bottom left: LHN run without humidity adjustment (2h free run after 36h LHN forcing started at 12 July 00 UTC), bottom right: similar LHN run but with humidity adjustment.
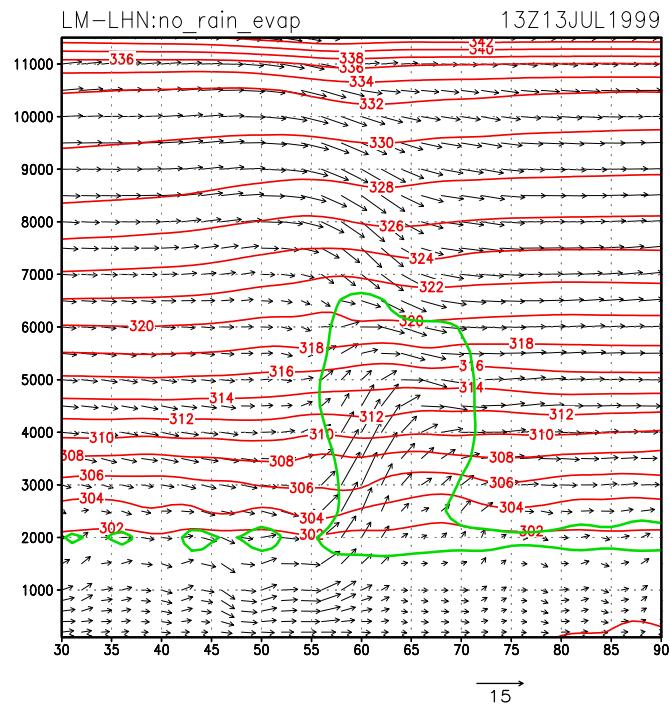
Figure 6: Vertical cross section through cloud induced by LHN–forcing (vertical axis: height in m, section at x=111 and y=30–90). Contour lines of potential temperature of dry air (red), areas with relative humidity exceeding 90% (green) and wind vectors (v,10.*w) in m/s.
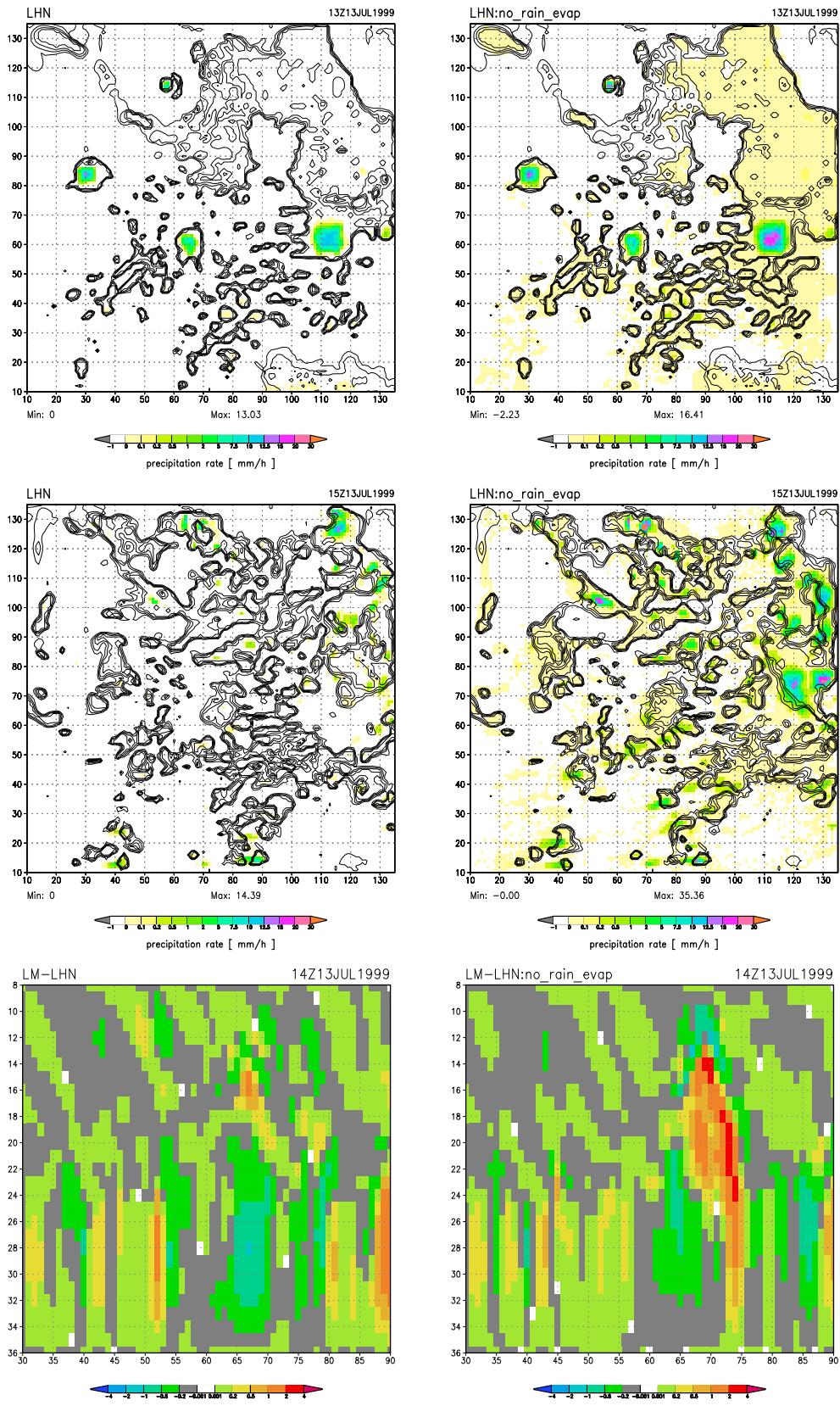
Figure 7: LHN runs at 2.8 km using idealized rain forcing cells with synoptic situation of 13 July 1999. Left panels for standard model, right panels for experimental run with exclusion of rain evaporation below clouds. Top: Hourly accumulated rain at 13 UTC after 1h LHN forcing (coloured, mm/h) and mid level cloud cover (isolines at 40, 60, 80, 99the same for 15 UTC (after 2h free run), bottom: vertical section through vertical wind field (on model levels at x=120) for 14 UTC.