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Conditions of deep convection.

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Very deep convection often appears near the Andes Cordillera. We are specially interested in the Mendoza region (Argentina), where convection can give rise to severe hailstorms. By comparing a day in which convection was very deep with a day without convection we studied the local and regional conditions which can induce these events. This study has been possible with the help of ECMWF analysis,the WRF mesoscale model,satellite data and radar and sounding data obtained near the site. The WRF mesoscale model allows to determine the existence of mountain waves and permits to trace maps of CAPE at different times. ECMWF analysis shows if the air arriving at the region bring enough humidity to produce moist convection. This preliminary study show that the air masses bringing the humidity are a necessary although not sufficient condition for convective events.