# Flux profile relations of moist conserved variables from Large Eddy Simulation of a well-mixed fog.

GJ Steeneveld

Wageningen University, Meteorology and Air Quality Section, Wageningen, Netherlands (gert-jan.steeneveld@wur.nl)

Fog is a weather phenomenon critical to society, and in particular for the transportation sector. Therefore accurate forecasting of fog is a key task of the meteorological services. Unfortunately, numerical weather prediction models have large difficulties in fog forecasting. Part of this misrepresentation is due to limited vertical and horizontal resolution and initialization issues. However, another part may originate from deficiencies in the physical parameterizations, e.g. turbulent mixing. In order to parameterize the turbulent mixing, many schemes require the functional form of the so called flux-profile relations. These have been widely determined from field observations for unsaturated conditions. Unfortunately, flux-profile relations are difficult to determine from observations for saturated conditions. Therefore, it is often a priori assumed the flux-profile relations for unsaturated and saturated conditions are equal. In this study we use the Dutch Atmospheric Large Eddy Simulation model to determine the flux-profile relationships for saturated conditions, based on a fog case.