Abstract Submitted
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Effects of soil moisture initialization on simulations of atmospheric boundary layer flow over complex terrain[1] MEGAN DANIELS, FOTINI CHOW, University of California, Berkeley, Dept. of Civil and Environmental Engineering — Soil moisture affects flow in the atmospheric boundary layer (ABL) by changing the surface heat fluxes. Standard surface boundary condition initialization procedures often rely on coarse grid data sets that are unable to capture variation over topography resolved by finer grids. High resolution simulations of ABL flow over Owens Valley, CA are carried out first using standard surface boundary condition initialization procedures, then using field observations of soil moisture and temperature as well as adjusted snow cover. A quiescent and a strongly forced case are considered. Simulation results are compared to observations gathered during the Terrain-Induced Rotor Experiment in March and April, 2006. Preliminary results indicate that more accurate soil moisture characterization changes flow evolution under quiescent conditions. The effect of soil moisture initialization under strongly forced conditions is also examined.

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