



Supplement of

Large eddy simulation of boundary-layer turbulence over the heterogeneous surface in the source region of the Yellow River

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Supplement



Fig. S1. Wind speed obtained by sounding near the Ngoring Lake on July 29, 2012.



Fig. S2. The time series of the kinetic energy for all runs.



Fig. S3. Vertical profiles of the momentum flux for runs HOMW, A1LW, and A2LW with background flows. The resolved and subgrid results are presented as red and blue lines, respectively.



Fig. S4. The y-z cross sections of the buoyancy production/destruction (contour) with superimposed wind vectors composed of v and w wind over (a, d) homogeneous and (b, e, c, f) heterogeneous surfaces with (d, e, f) and without (a, b, c) background flow. Black lines on the x-axis represent the lake patches



Fig. S5. The y-z cross sections of the virtual potential temperature (contour) with superimposed wind vectors composed of v and w wind over (a, d) homogeneous and (b, e, c, f) heterogeneous surfaces with (d, e, f) and without (a, b, c) background flow. Black lines on the x-axis represent the lake patches



Fig. S6. Same as fig.10 but for runs with "balanced" surface heat flux.



Fig. S7. The y-z section of the instant vertical velocity for A1LW (a), A2LW (b), A1LWC (c), A2LWC (d), A1LNG (e), A2LNG (f), A1L (g) and A2L (h). Black lines on the y-axis represent the lake patches.