Supporting Information for

Improvement of Atmospheric Objective Analysis over Sloping Terrain and Its Impact on Shallow-Cumulus Clouds in Large-Eddy Simulations

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Introduction

This support information provides the plots of large-scale forcing and simulated clouds for all the sensitivity studies discussed in Section 4.
Figure S1: divergence for the 20160518 case from (a) pCVA under 0x terrain and (b) σCVA under 0x terrain, and the divergence differences (c) between σCVA and pCVA under 0x terrain, (d, g, j) between different terrains and 0x terrain in pCVA, (e, h, k) between different terrains and 0x terrain in σCVA and (f, i, l) between σCVA and pCVA under different terrains.
Figure S2: same as Figure S1 but for the 20160611 case
Figure S3: same as Figure S1 but for the 20160719 case
Figure S4: same as Figure S1 but for omega of the 20160518 case
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Figure S11: same as Figure S1 but for horizontal q advection of the 20160611 case
Figure S12: same as Figure S1 but for horizontal q advection of the 20160719 case
Figure S13: LES simulated cloud fraction for the 20160518 case with (from top to bottom) 0x, 1x, 2x and -2x terrain by using forcing from (left) $\sigma$CVA and (right) pCVA.
Figure S14: same as Figure S13 but for the 20160611 case
Figure S15: same as Figure S13 but for the 20160719 case