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Supplement of

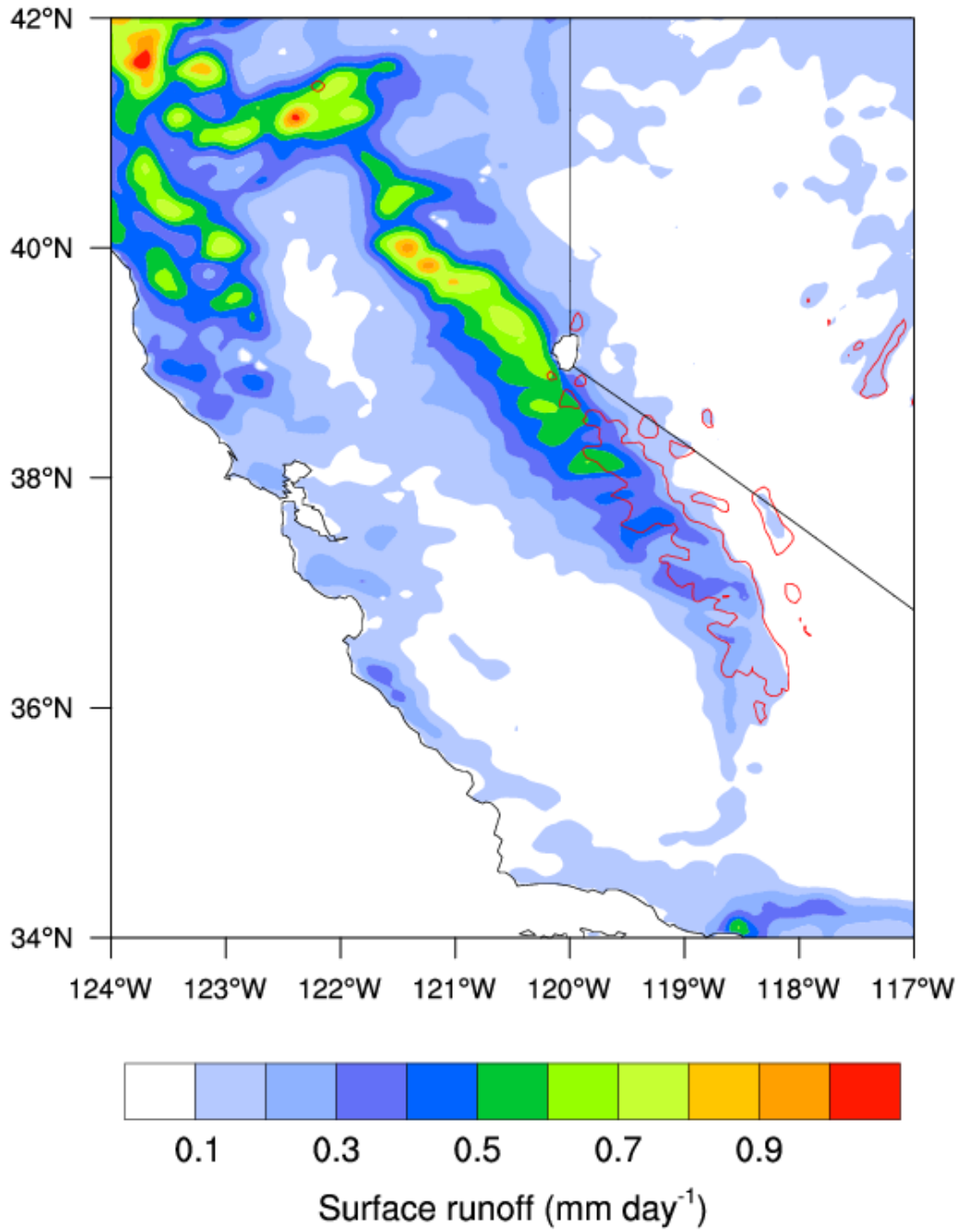
Impacts of aerosols on seasonal precipitation and snowpack in California based on convection-permitting WRF-Chem simulations

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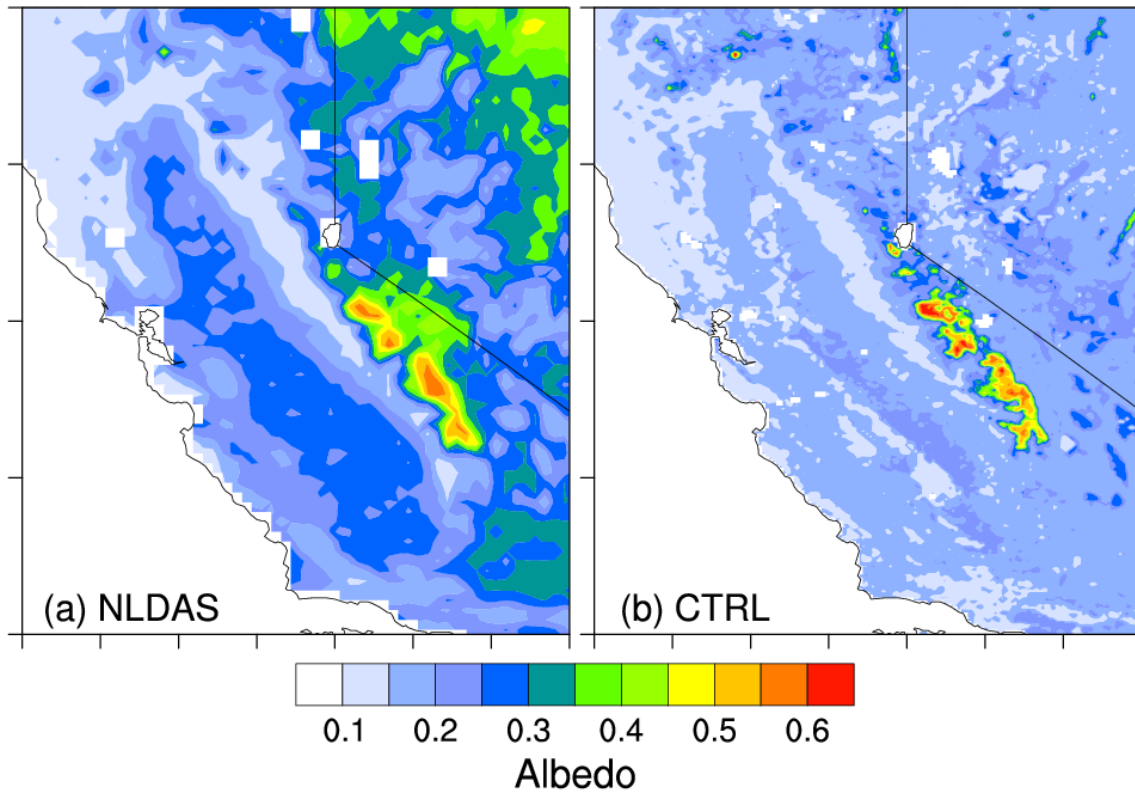
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22 **Figures**



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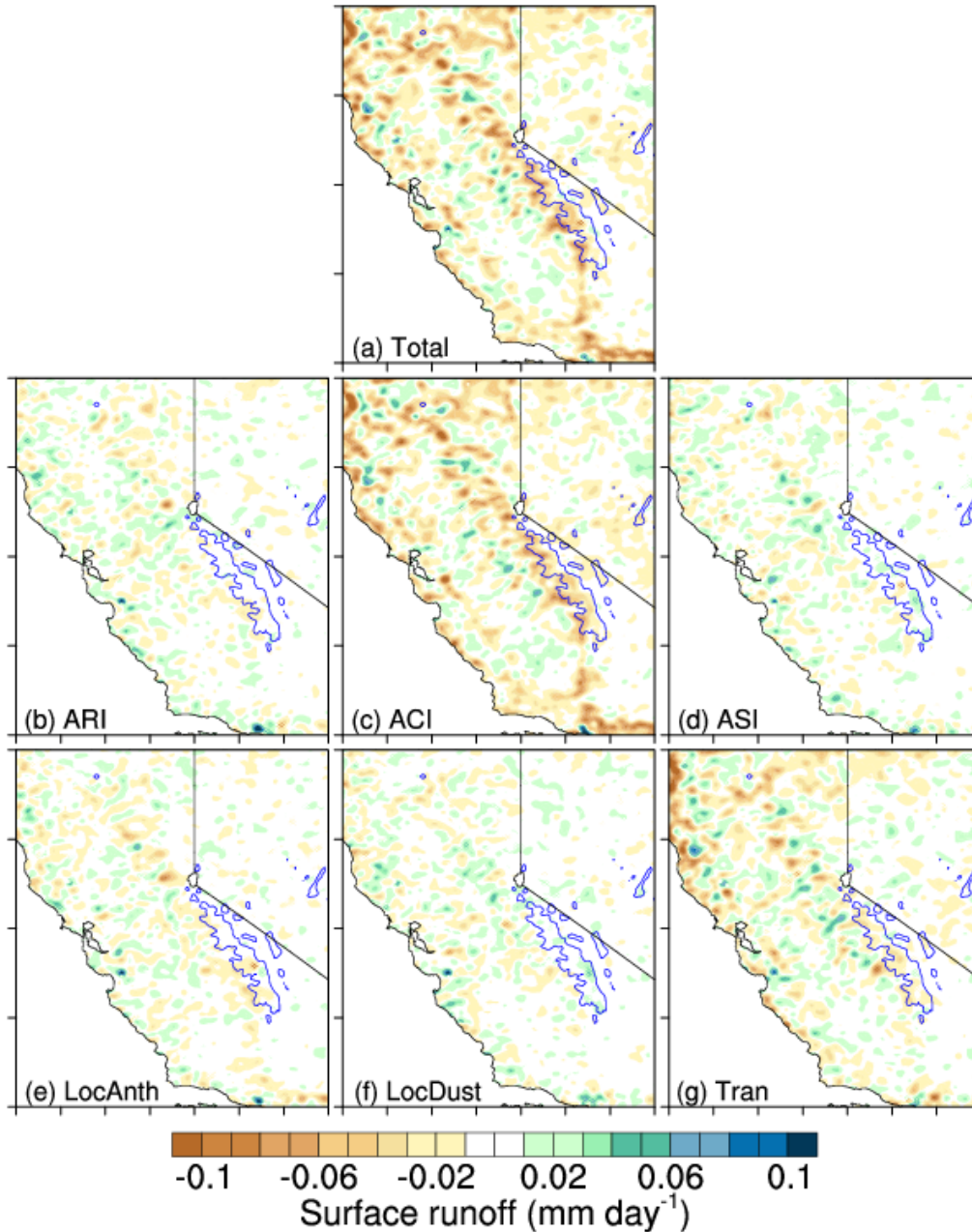
24 Supplementary Figure S1. Surface runoff (mm day⁻¹) in the CTRL simulation averaged over
25 October 2012 to June 2013. Red lines represent the mountain tops with elevation ≥ 2.5 km.



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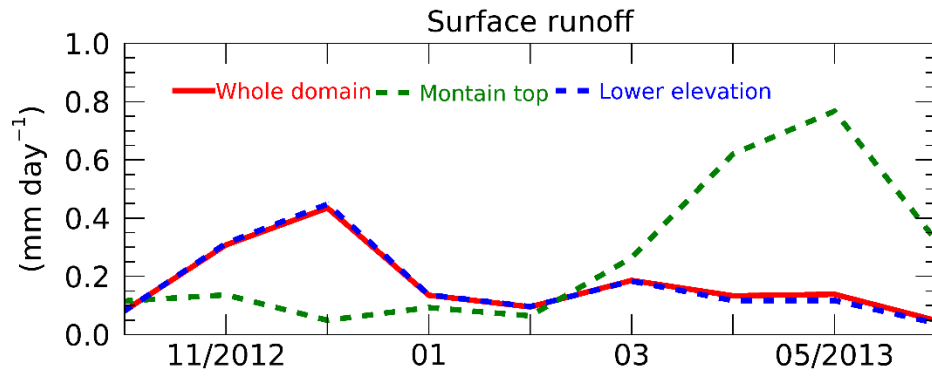
27 Supplementary Figure S2. Spatial distribution of surface albedo averaged over October 2012 to

28 June 2013 from (a) NLDAS data assimilation and (b) CTRL simulation.



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30 Supplementary Figure S3. Aerosol impacts on surface runoff (mm day^{-1}) averaged over October
 31 2012 to June 2013 contributed by (a) Total effects (CTRL – CLEAN), (b) ARI effect (CTRL –
 32 NARI), (c) ACI effect (NARS – CLEAN), (d) ASI effect (CTRL – NASI), (e) local anthropogenic
 33 aerosols (CTRL – NoLocAnth), (f) local dust aerosols (CTRL – NoLocDust), and (g) transported
 34 aerosols (CTRL – NoTran). Blue lines represent the mountain tops with elevation ≥ 2.5 km.



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36 Supplementary Figure S4. Monthly mean surface runoff (mm day⁻¹) in the CTRL simulation.