

Seasonal cycle of idealized polar clouds: large eddy simulations driven by a GCMXiyue Zhang¹, Tapio Schneider^{2,3}, Zhaoyi Shen², Kyle G. Pressel⁴, and Ian Eisenman⁵¹National Center for Atmospheric Research, Boulder, Colorado, USA²California Institute of Technology, Pasadena, California, USA³Jet Propulsion Laboratory, California Institute of Technology, Pasadena, California, USA⁴Pacific Northwest National Laboratory, Richland, Washington, USA⁵Scripps Institution of Oceanography, University of California, San Diego, California, USA**Contents of this file**

Figures S1 to S3

Introduction

This supporting information provides figures showing the sensitivity of our results to a different liquid fraction function.

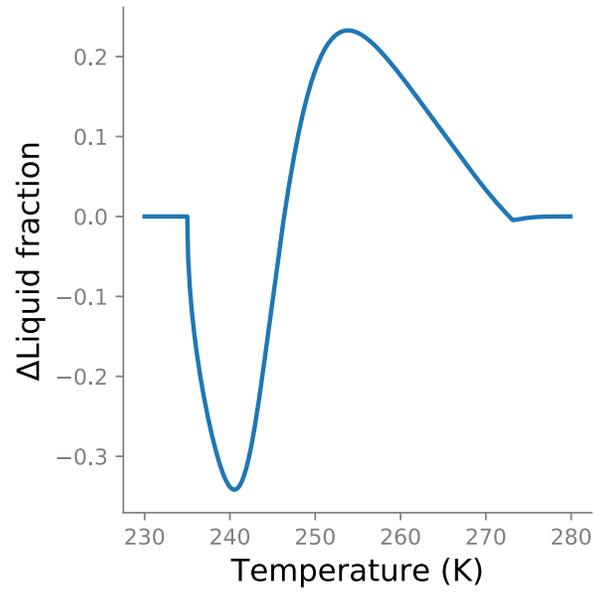


Figure S1. Liquid fraction difference between the observational-derived function in Hu et al. (2010) and Equation (1) with $n=0.5$.

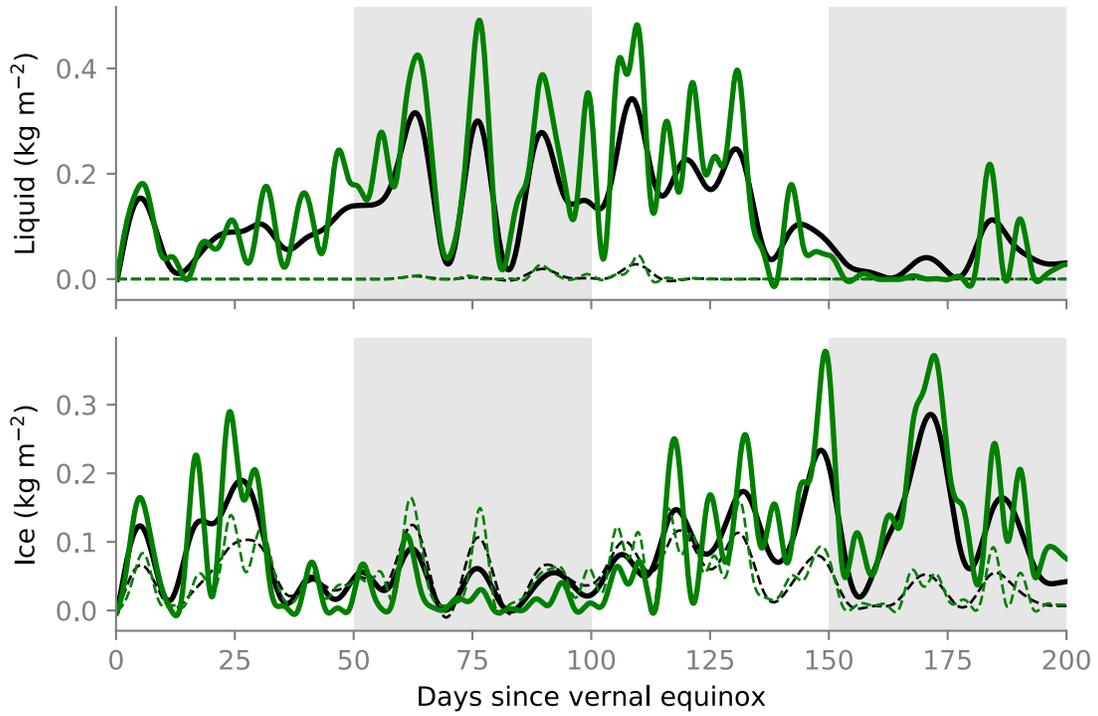


Figure S2. Same as Figure 5 but for two simulations with different liquid fraction functions. Black lines show condensed water paths with the default liquid fraction (Equation (1) with $n=0.5$). Green lines show condensed water paths with Hu et al. (2010) liquid fraction.

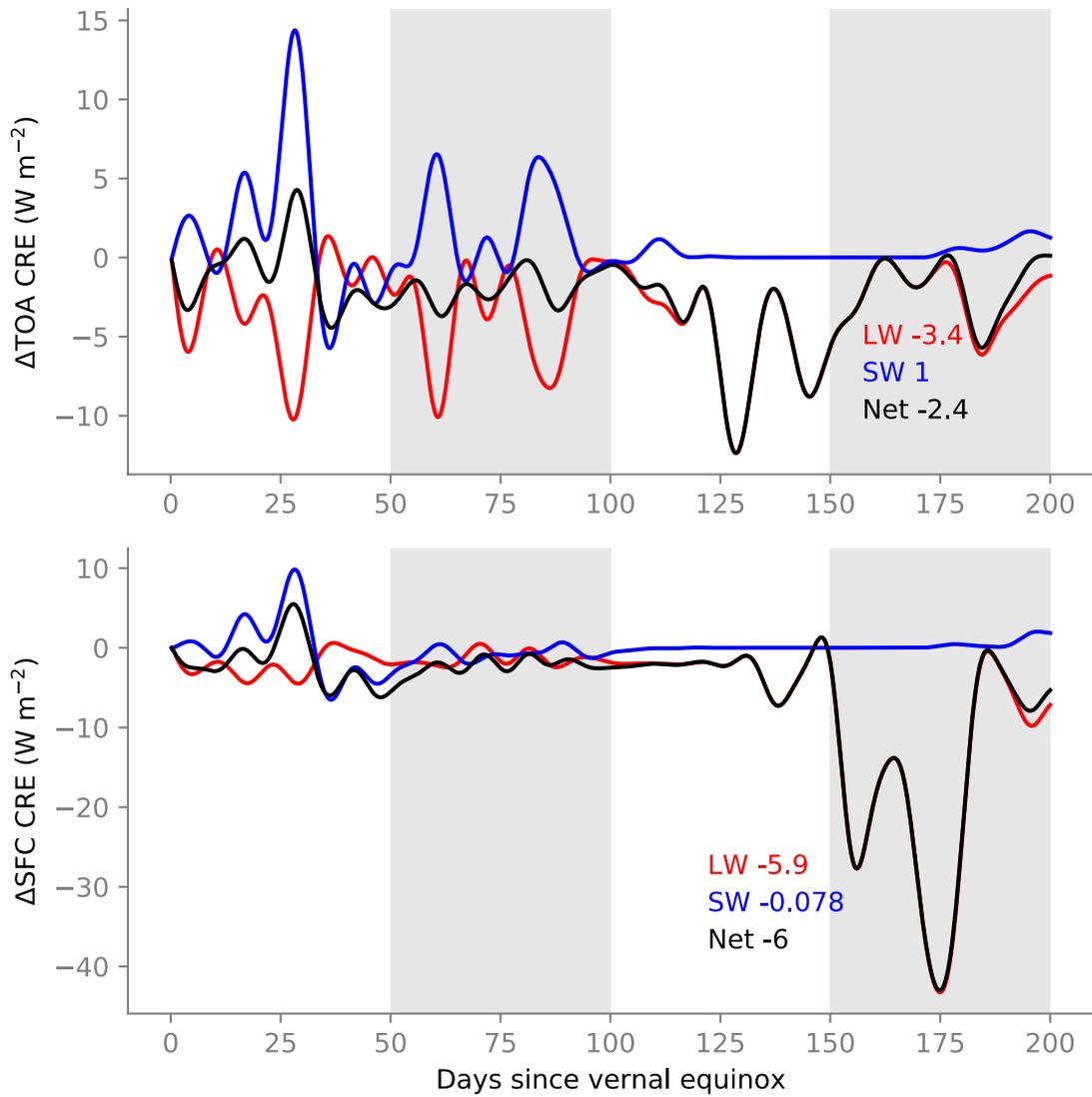


Figure S3. Same as Figure 6 but showing the difference in liquid CRE between two simulations with different liquid fraction functions (Hu et al. (2010) simulation minus default).