



Geophysical Research Letters

Supporting Information for

Observations of a substantial cloud aerosol indirect effect during the 2014-2015

Bárðarbunga-Veiðivötn fissure eruption in Iceland

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Introduction

This supplementary material provides additional analysis showing that the negative anomalies in cloud droplet effective radius over Iceland during the 2014-2015 Bárðarbunga-Veiðivötn fissure eruption in Iceland are not sensitive to whether MODIS data from the Aqua or Terra platforms is used or if multi-layer clouds are screened out. It also provides trajectory analysis from HYSPLIT to support the volcanic origin of these patterns of anomalies.

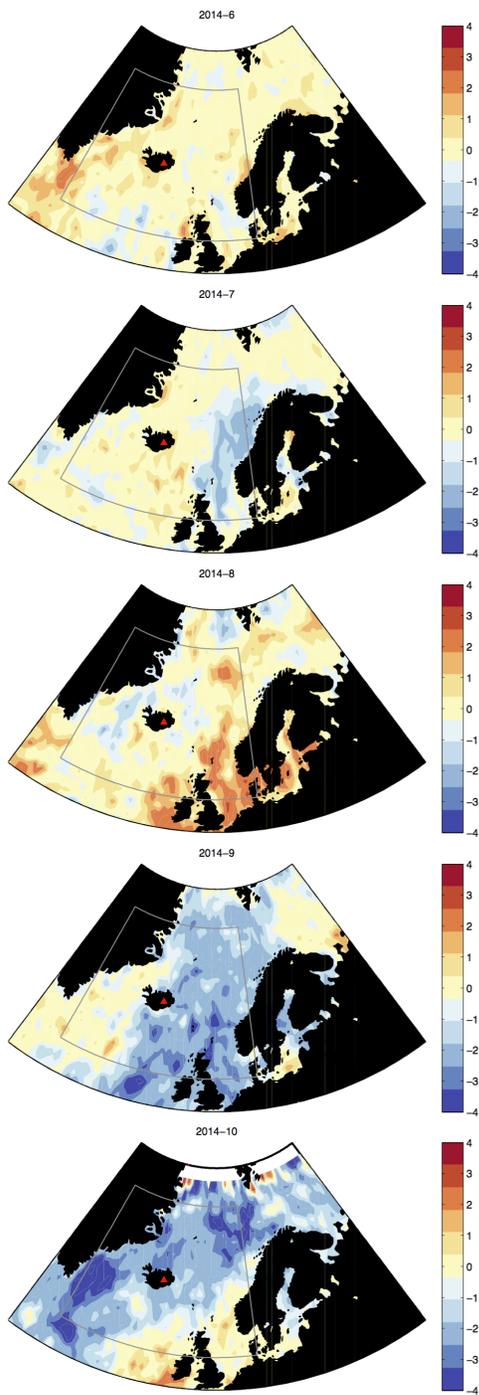


Figure S1. Anomalies in cloud droplet effective radius from MODIS onboard Terra retrieved using the 2.1 μm band. Anomalies are given in μm relative to the climatology.

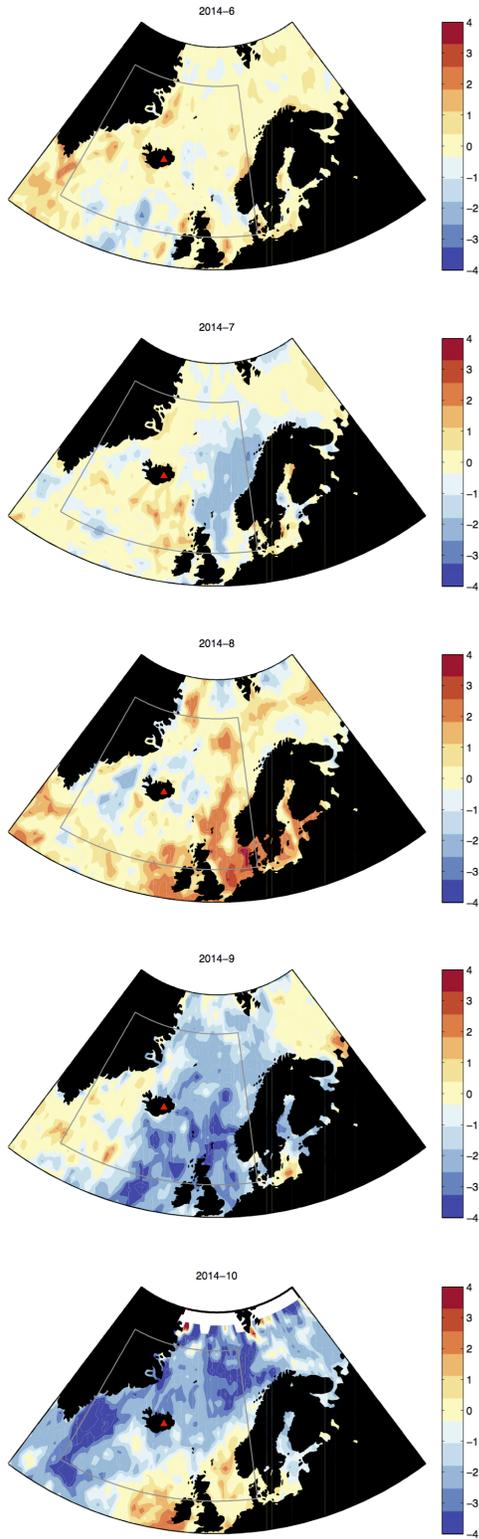


Figure S2. as in Figure S1, but for single-layer clouds only.

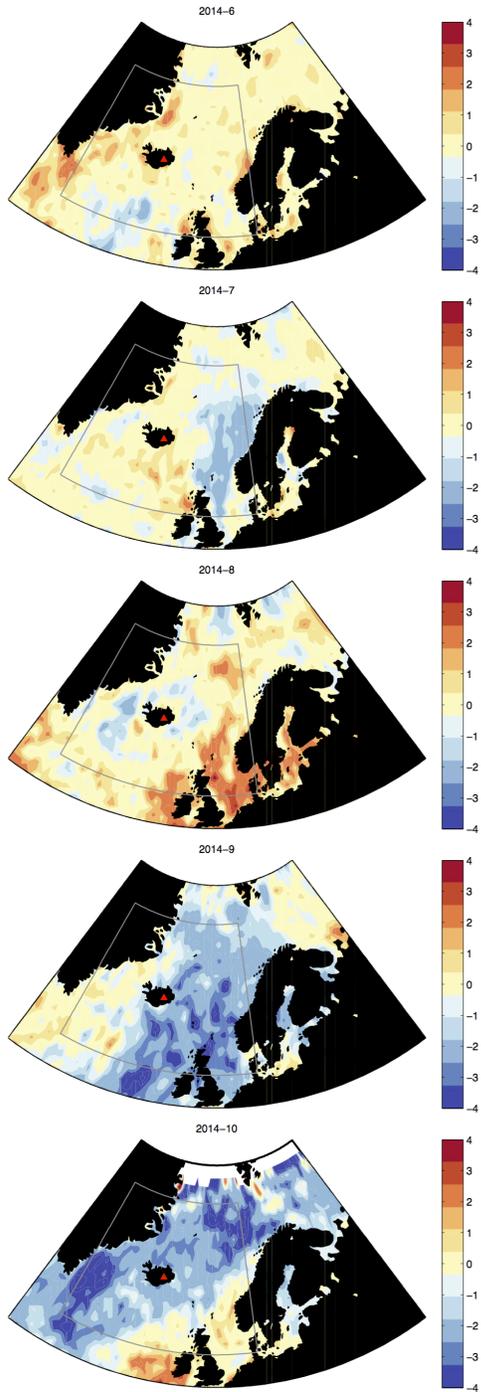
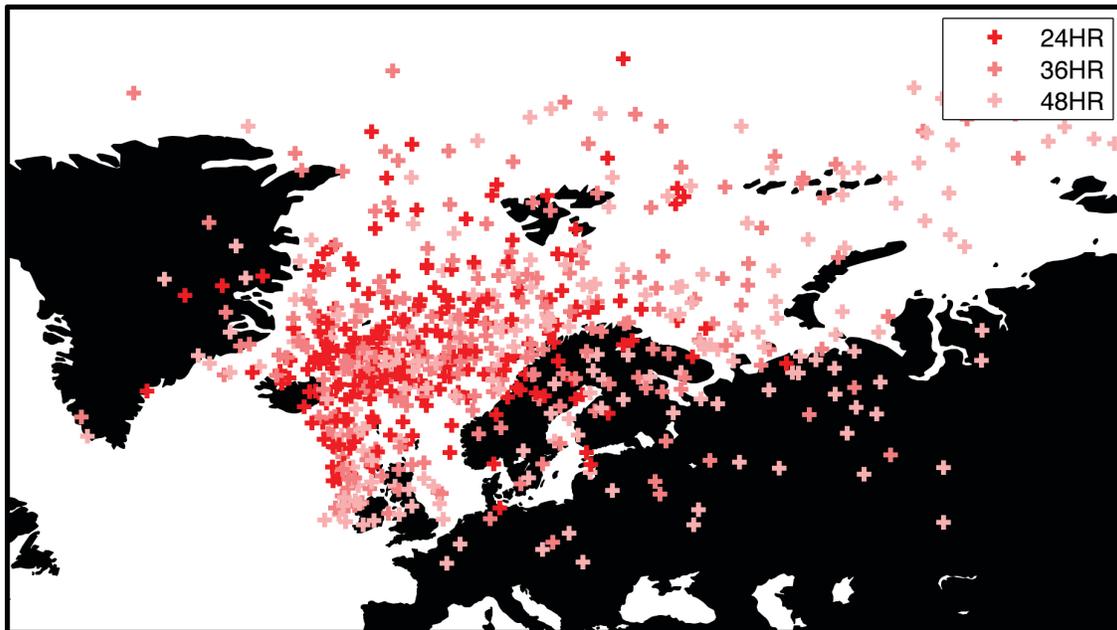


Figure S3. As in **Figure S1**, but for MODIS data from Aqua and for single-layer clouds.

Trajectories at 24H, 36H, and 48H – September



Trajectories at 24H, 36H, and 48H – October

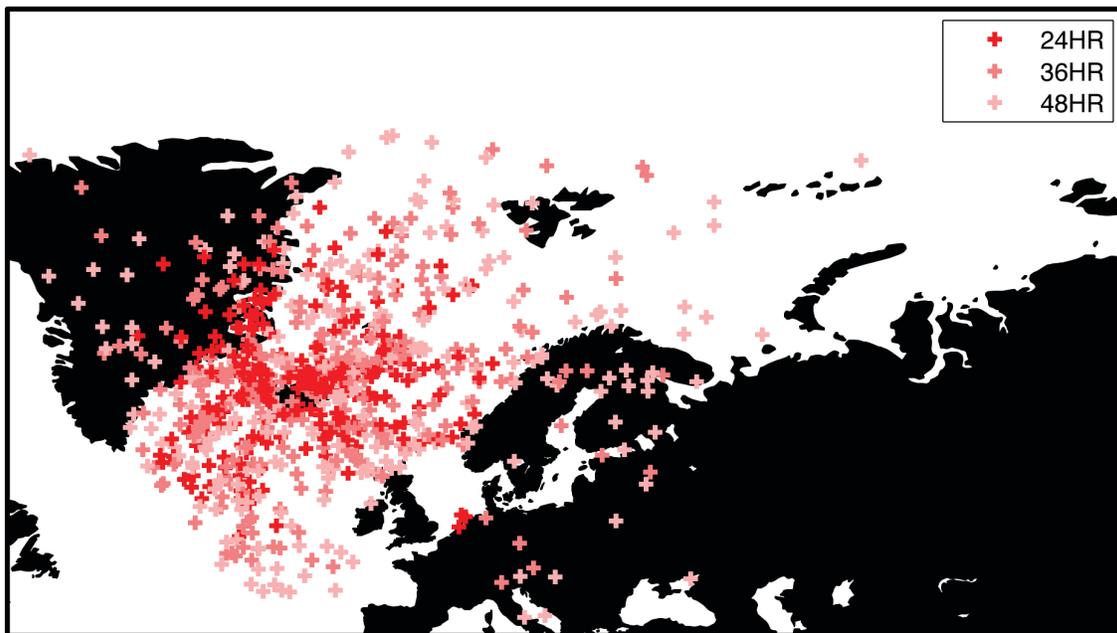


Figure S4. Trajectories started from the Bárðarbunga-Veiðivötn fissure for the months of September and October of 2014. Trajectories were started 4 times daily. The 24, 36, and 48 hour time steps are shown for each trajectory. Trajectories were started at 2000 m AGL and 4000 m AGL.