Supplement of

A global long-term, high-resolution satellite radar backscatter data record (1992–2022+): merging C-band ERS/ASCAT and Ku-band QSCAT

Shengli Tao et al.

Correspondence to: Shengli Tao (sltao@pku.edu.cn), Zurui Ao (aozurui@m.scnu.edu.cn), and Yi Y. Liu (yiliu001@gmail.com)

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Figure S1. QSCAT signals rescaled by different methods in different locations. In the upper-left corner of each panel, the location of the pixel was shown as a red dot.
Figure S2. rRMSE-based quality assessment of the CScat data set at the pixel level. Each panel shows the result of one region. Inside each panel, the rRMSE values between the C-band and the scaled Ku-band signals in the overlapping years (1999-2001 and 2007-2009) were calculated for all the pixels in this region and colored in orange. As a comparison, the rRMSE values between the C-band and the corrected Ku-band signals in the overlapping years were also calculated and colored in green. The medians of the rRMSE values are labelled inside each panel.
Figure S3. Spatial pattern and histogram of the rRMSE values between the C-band and the final corrected Ku-band signals in the overlapping years (1999-2001 and 2007-2009).
Figure S4. Spatial distribution of variable importance for predicting the signal differences between the C-band and the scaled Ku-band signals in the overlapping years (1999-2001, 2007-2009). The variable importance was calculated from the decision tree regression model by checking the sequence of the predictors used to split the decision tree. For Types 1, 2, and 3 pixels, the most important variables are monthly precipitation, skin temperature, and snow depth, respectively.
Figure S5. Temporal changes in the number of ESA ERS-2 pixels in different regions.