Seasonal Snow Monitoring in Northeast China Using Space-borne Sensors: Preliminary Results

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Abstract

Snow and meteorological measurements collected at six sites in Northeast China were used to compare snow cover area (SCA) retrieved from the Moderate Resolution Imaging SpectroRadiometer (MODIS) and QuikSCAT and snow water equivalent (SWE) retrieved from the Advanced Microwave Scanning Radiometer (AMSR). The SCA retrieved from QuikSCAT and MODIS are in qualitative agreement with each other and with in situ measurements. Based on in situ data from stations Qingyu and Dehui, SWE retrieved from AMSR show a bias of 43% and a R^2 value of 0.91 with in situ data for the early snow season. These results are consistent with previous estimates and point to the need to properly account for other snow properties such as snow density profile and grain size in the retrieval of regional snow parameters in Northeast China.

Keywords

space-borne data, snow covered area (SCA), snow water equivalent (SWE)