

Spatio-temporal variations of AMSR-E Soil Moisture in Shanxi Province, China

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Variability of soil moisture is closely connected to the earth surface conditions and climate change. Satellite remote sensing is an effective measure to know soil moisture in large area for long periods of time. AMSR-E(Advanced Microwave Scanning Radiometer of EOS) is a passive sensor which provides timely, long-term informations on land hydrology. In this study, our purpose is to validate AMSR-E(ver. koi531) soil moisture dataset using ground-based soil moisture data set, and also we analyze the spatio-temporal variations over Shanxi Province in China. The validation results suggested that the quality of AMSR-E soil moisture estimation was good although some region slightly overestimated soil moisture. In space, AMSR-E soil moisture showed increasing tendency from northwest to southeast in this areas. In time, the high soil moisture content mostly were found in summer(July, August, September). We also found timing of APHRODITE's daily precipitation event corresponded to AMSR-E soil moisture variation very well.

Keywords: soil moisture, AMSR-E, validation, ShanXi Province