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Remote Sensing Application on Snow Products and Analyzing Disaster-Forming Environments Xinjiang, China

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Abstract : Snow is one kind of special underlying surface, has high reflectivity, low thermal conductivity, and snow broth hydrological effect. Every year, frequent snow disaster in Xinjiang causing considerable economic loss and serious damage to towns and farms, such as livestock casualties, traffic jams and other disaster, therefore monitoring SWE (snow volume) in Xinjiang has a great significance. The problems of how this disaster distributes and what disaster-forming environments are important to its occurrence are the most pressing problems in disaster risk assessment and salvage material arrangement. The present study aims 1) to monitor accurate SWE using MODIS, AMSRE, and CMC data, 2) to establish the regularity of snow disaster outbreaks and the important disaster-forming environmental factors. And a spatial autocorrelation analysis method and a canonical correlation analysis method are used to answer these two questions separately, 3) to prepare the way to salvage material arrangements for snow disasters.

Keywords : snow water equivalent (snow volume), AMSR-E, CMC snow depth, snow disaster
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