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Comparison of simulated snow covers area by physical based model and satellite image

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Modeling of snow accumulation and melting is important in areas where snowmelt significantly contributes to runoff and flooding. Such processes are invariably spatially distributed, with the basin disaggregating into zones or grid cells. Satellites images provide valuable data to verify the accuracy of spatially distributed model outputs. In this study the WetSpa model was applied to predict snow cover and melting in the Latyan dam watershed in Iran. One year daily data from September 2004 to September 2005 were selected for the simulation. The predicted snow-covered area is compared with remotely sensed images: one in the beginning of the snow accumulation period, one in the middle of the snow accumulation period, and one after snowmelt. There is a reasonable agreement between the satellite images and the model results. The model performance is also tested by statistical and graphical comparison of simulated and measured discharges entering the Latyan dam reservoir.