Simulated versus Satellite Retrieval Distribution Patterns of the Snow Water Equivalent over Southeast Europe

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Snow is a very important component of the climate system which controls surface energy and water balances. Its high albedo, low thermal conductivity and properties of surface water storage impact regional to global climate. The various properties characterizing snow are highly variable and so have to be determined as dynamically active components of climate. However, on large spatial scales the properties of snow are not easily quantified either from numerical modelling or observations. Since neither observations (ground measurements or satellite retrievals) nor models alone are capable of providing enough adequate information about the time space variability of snow properties, it becomes necessary to combine their information. In the presented study the regional climate model RegCM is applied to simulate the snow water equivalent over Southeast Europe for a time window of 14 consecutive winters. The model output on monthly basis is compared with the Globsnow satellite product, revealing the principal agreement between the two assessment methods.
Key words: Snow water equivalent, Numerical simulation, RegCM, Satellite observation, Comparison