

Interactive comment on “Commentary on comparison of MODIS snow cover and albedo products with ground observations over the mountainous terrain of Turkey” by A. Ü. Şorman et al.

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Thank you very much for your overall evaluation, your comments pointing out that ‘this paper makes an important contribution to the effort on the key objective of snow cover remote sensing’ are appreciated by the authors.

Concerning your positive criticism on the study area, the following paragraph will be added to the text:

1. At present, the Euphrates and Tigris are the two largest trans-boundary rivers in

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Western Asia where Turkey, Syria, Iran, Iraq and Saudi Arabia are the riparian countries. The Euphrates and Tigris basins are largely fed from snow precipitation over the uplands of northern and eastern Turkey whereby nearly two-thirds occur in winter and may remain in the form of snow for half of the year. The Upper Euphrates river basin (Karasu basin) is a rugged mountainous region much affected by snow. The basin boundaries are within the longitudes 38° 58' E to 41° 39' E and latitudes 39° 23' N to 40° 25' N. Land cover in Karasu basin is mainly pasture, shrub, bare land and cultivated area. Karasu basin outlet is controlled by the stream gauging station EIE 2119 under the supervision of General Directorate of Electrical Power Resources Survey and Development Administration (EIE) in Turkey. Length of the main river in the basin is around 300 km. When the long-term runoff hydrographs at the EIE 2119 stream gauging station is analyzed, it can be seen that around 69% of total annual volume contribute to the flow during the snowmelt period of mid March through mid July.

2. We agree on the importance of the network. But in a rough terrain installation and operation of the network are difficult tasks. The location of the existing AWOS and snow courses are selected according to their elevations.

3. We agree with your comments, it will be studied in EMETSAT H-SAF project.

4. We agree that matching snow cover and snow water equivalent to streamflow at available gauging stations is one of the most valuable and consequential way to verify observed snow values. This comparison was done by the help of a hydrological model SRM in one of the reference paper of Tekeli et al (2005).

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