Hydrol. Earth Syst. Sci. Discuss., 7, C3762–C3763, 2010
www.hydrol-earth-syst-sci-discuss.net/7/C3762/2010/

Hydrology and Earth System Sciences Discussions

Interactive comment on "Evaluation of satellite rainfall estimates over Ethiopian river basins" *by* T. G. Romilly and M. Gebremichael

Anonymous Referee #3

Received and published: 29 November 2010

Review of the HESS Paper # hess-2010-276 titled: Evaluation of Satellite Rainfall Estimates Over Ethiopian River Basins, by T.G. Romilly and M. Gebremichael

Though the paper definitely has scientific interests, I first hesitated to categorize it. Considering the paper lacks detailed results interpretations, I recommend accepting it with minor revision. Below are main points which motivated my recommendation.

In this manuscript, three satellite based rainfall estimates (SREs) are evaluated against in-situ observations over six specific regions of Ethiopia. Such procedure is of high interest especially for quantifying and understanding the uncertainties in the satellite products over complex topography regions. The authors evaluated the spatial and seasonal pattern of these products, and confirmed as a main finding a relation between

elevation and bias (commonly known but not always demonstrated as is in this study). The results part is very descriptive and no clear explanation is performed on why those results are occurring. As an example, the authors could include brief overviews of the retrieval methods/algorithms of the satellite products in their description section, and later use it to explain some discrepancies/similarities in the results. Also, the authors could explore the average rainfall diurnal-cycle to better understand and comment on the rainfall mechanism in those regions (satellite data are already at 3-hourly resolution and it would be a significant plus to the study if they could get in-situ observations at the suitable time resolution).

Specific comments:

In-situ observations uncertainty should be discussed.

Table 1: the results of this study could be integrated in this table and discussed relatively to the other studies in the conclusion part.

Mount west should be replaced by western mountain everywhere in the text.

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 7, 7669, 2010.