

Interactive comment on “Combining satellite radar altimetry, SAR surface soil moisture and GRACE total storage changes for model calibration and validation in a large ungauged catchment” by C. Milzow et al.

C. Milzow et al.

christian.milzow@alumni.ethz.ch

Received and published: 22 February 2011

We thank the reviewer for his inputs.

1) List of remote sensing products relevant to hydrology

Remotely sensed datasets relevant for hydrological studies have rapidly gained in diversity. We do however not want to give a review on all available products because this

C5130

is beyond the purpose of our study and has been done by other authors which we cite in the introduction. Also, Reviewer 2 notes that there is a lot of data description in the introduction. We therefore chose to detail only on the characteristics of the data used in our study. Very little is known about the reliability of the applied products, we will comment on this in the revised manuscript.

2) Model choice

Our project consists in two parts which are 1) to set up, calibrate and validate a model of the Okavango catchment using available remote sensing data, and 2) apply the model to simulate ecological impacts and economic benefits of agricultural development. The present manuscript describes part 1. It is for part 2 that a complex model like SWAT, including e.g. simulation of plant growth is required. In the revised manuscript we will state more clearly how the work described in the manuscript is embedded in the larger project and what are the goals of the first part.

The choice of the relatively low spatial resolution of the model arises from the lack of distributed data characterizing the catchment. A higher spatial resolution would necessarily result in an overparameterization. The fact that many of our forcing and validation data (precipitation, temperature, soil surface moisture) are raster data does not interfere with the semi-distributed nature of the model. These raster data can easily be averaged over the SWAT subbasin shapes.

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 7, 9123, 2010.