First we think Prof. Savenjie for reviewing our paper. His comments are useful to our paper. We were happy to read his words in the fist paragraph on general comments.

However, we do not agree completely with the referee regarding the use of the phrase “sensitivity analysis” and not “uncertainty analysis” because in the sensitivity analysis one has to consider the variation of the input parameter or parameters in a systematic way and look at the output responses accordingly. Our case is different; we considered our input parameter (which in our case is the saturated hydraulic conductivity) as random variable described by a probability density function (Uniform pdf in our case) characterized by the minimum and maximum values of the range observed in the watershed (see Table 2). The assumption we made is the use of a lumped (spatial average Ks) over the watershed because the REW version, we already have used, can
only handle lumped parameter with Ks. The uncertainty that was considered is on the spatial average Ks that was computed based on the lower and upper limits of Ks (see Table 2).

May be the procedure (section 2) was not clear. We will give some more explanation here. The procedure is as follows: first we calibrated the REW model, second we computed minimum and maximum values of weighted average Ks, third, we generated from a uniform pdf a value of spatial average Ks. Then the REW model response is computed. The procedure is repeated many times for each realization of Ks.

The Monte-Carlo approach, presented in this paper, is commonly used in groundwater studies to model uncertainty in Ks (see e.g. Kinzelbach ˇEˇEˇE).

Specific Comments:

The referee said “The authors do not really present any info on soil variability” However, this is not true we provided data on soil map and values of Ks in Table2.

We would like also to emphasize an issue related to variability and uncertainty which we think the referee means by his sentence (we guess). We did not consider variability of soil parameters in the model because the REW model version, used in the study, does not take this into account, while we considered uncertainty in the spatial average Ks which in our opinion is a good start to show the methodology and in the future the methodology could be extended to address uncertainty due to variability.

1. I think of we remove the sub-title “incorporating uncertainty in soil properties” we will loss the essence of the paper. There should be something on the tile saying something about that (section 2). 2. We did shorten chapter 6. However, we kept the title because we believe it is not sensitivity as we mentioned above. 3. We removed figure 11, 14 and 15, however, we believe figure 10 and 12 and 13 are essential to show the results of the methodology explained in section 2 and we revised the text accordingly. We also should mention that Figure 10 was based on FigureˇEˇEˇE(book). 4. We removed the
lines 16-20 on page 83.

Technical Comments

These comments has been incorporated.

Interactive comment on Hydrology and Earth System Sciences Discussions, 3, 69, 2006.