

Interactive comment on “Testing the realism of a topography driven model (FLEX-Topo) in the nested catchments of the Upper Heihe, China” by H. Gao et al.

Anonymous Referee #2

Received and published: 4 January 2014

This manuscript presents an analysis of the effect of increasing complexity in a model, with emphasis on the indices which can be derived from topography. The manuscript is quite well written and brings up some useful ideas and discussions, and should be publishable after some modifications.

I find the comments of Reviewer#1 very sensible, and will just give some additional suggestions.

The conclusions that FLEX-T is better transferrable than the other models is most likely correct, but is based on the results from only two sub-catchments. Some more

C7052

considerations of the validity of the results would be recommended.

The water balance on page 83-84 should be in a table.

Minor comments

P64 L9 “accounts for” means “explains”. Is this correct here?

P64 L14 “evaluated at two nested sub-catchments” – or “evaluated for two upstream sub-catchments”

P68 L15 Is the average snow amount valid for the stations or for the catchment? I guess there is more snow higher up, this should be clarified.

P69 L10-15 It would be good to know the typically size of terraces (width between steps, step size)

P71 L2 I guess it is “cloud free” LANDSAT images

P75 L7 change “where” to “and”

P76 L15 I am not sure if “parallel modeling units” is a clear concept. Consider rewriting.

P76 L15 Table 4 does not show that the Tlag-parameters represent the lag times.

P82 L8-9 “when tested . . . sub-catchments” can be removed

P82 L15-16 “did not produce any peak flow in all three” – consider rewriting

P86 L13 and 16 “reason for overestimation” is probably better

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 10, 12663, 2013.

C7053