

***Interactive comment on “Regional scale analysis
of landform configuration with base-level maps”
by C. H. Grohmann et al.***

S. Castellort

sebastien.castellort@erdw.ethz.ch

Received and published: 11 January 2011

Dear HESS community and Authors of the HESS-2010-365 paper "Regional scale analysis of landform configuration with base-level maps", This paper is a very interesting contribution, It raises a couple of additional questions: 1) Since water flows perpendicularly to topographic contour lines, and accumulates at a rate roughly proportional to slope, it seems inevitable that base-level lines defined on the base of stream orders will reflect closely the actual topography. Does that make sense? 2) If yes, the question then is: does topography always reflect the field of tectonic uplift? In the example of Figure 4, the base-level surface is not very different from the actual topography, and the topography reflects the tectonics very closely because it is active. How does that work in other contexts, either when the tectonic field is more complex, for instance in

C1

the context of strike-slip deformation, or when tectonics are inactive and one wants to use base-level maps to unravel hidden geological structures? Hope these comments can help the discussion, Best Regards, S.C.

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 8, 89, 2011.

C2