Hydrol. Earth Syst. Sci. Discuss., 7, C3269–C3270, 2010
www.hydrol-earth-syst-sci-discuss.net/7/C3269/2010/

Hydrology and Earth System Sciences Discussions

Interactive comment on "A multiple threshold method for fitting the generalized Pareto distribution and a simple representation of the rainfall process" *by* R. Deidda

R. Deidda

rdeidda@unica.it

Received and published: 31 October 2010

I would like to acknowledge Referee #2 for his/her positive feedback on the manuscript.

General comment:
The English has been improved taking into account the list of corrections provided by Referee #1; moreover, the final version has been proofread by a professional mother-tongue expert.

Specific comment 1:
At point 1 Referee #2 claims that section 3 and the beginning of section 4 "are a bit too tedious" and I certainly agree with him/her. The reason is that this part of the manuscript is devoted to the derivation of a threshold-invariant parameterization of the generalized Pareto distribution (GPD). The results of this derivation (namely Eqs. (8) and (9), and the reparameterized GPD in Eq.(10)) are the basis of the Multiple Threshold Method (MTM) which is the main contribution of the manuscript and for this reason I prefer to keep these parts and to leave as final choice to the reader to eventually skip the analytical derivations. Thus at the beginning of Section 3 of the revised manuscript I added the following sentence:
"A reader who is not interested in the details of derivation of such relationships may skip Sect. 3, just keeping in mind Eqs. (8) and (9), which are needed to reparameterize the GPD in Eq. (10) using estimates obtained with any threshold u."

Specific comment 2:
I agree.

Specific comment 3:
At point 3 Referee #2 wonders whether the results presented in the manuscript can be used for regionalization purposes. My answer is yes. This is the actual direction of my research and, moreover, the development of the MTM was stimulated by the need to improve regionalization approaches. Preliminary results of this thread of my research were recently presented in the 10th International Precipitation Conference held in Coimbra, Portugal, on 23-25 June 2010. The outcome of these additional research activities will be communicated in forthcoming papers.

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 7, 4957, 2010.