

Interactive comment on “Modeling 25 years of spatio-temporal surface water and inundation dynamics on large river basin scale using time series of earth observation data” by V. Heimhuber et al.

Anonymous Referee #1

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The manuscript entitled “modeling 25 years of spatio-temporal surface water and inundation dynamics on large river basin scale using time series of earth observation data” modeled SWD for 25 years over MDB. In general, this manuscript is well organized and presented. But some minor issues need to be addressed before accepting for publication.

Page 6, line 15-20, This paper would be better to be self independent and understandable. The authors should be cautious to cite a paper that is not published yet. Please provide more information about the SWE that were calculated in Tulbure and Broich et

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al. in term of its spatial variability, uncertainties, etc.

Page 8, line 28, what’s your criteria for using the number of 40% here? Any references to support this number?

Page 9, line 18, beta4 should multiply ET instead of P in eq(1)?

Page 11, line 19, what is the normal flow concentration time from the upper stream to the lower stream, is 5days time step small enough to test the correlations? Why not 3days or 1day? The authors should adjust the selection of positive and negative of 5days here

Page 14, line 10, should be “directions”

Page 16, line 8, should be “(Fig. 7)”

Figure 1, the unit of the elevation should be in km instead of m.a.s.l

Table 3 and 4 , the unit of discharge (ml/day) seems odd to me, it would be better to convert it into mm/year in table4 then the readers can have a clear sense of the water balance in this area

Since the authors have data available for a longer period, I am wondering how is the model performance for the 2010-2011 La Nina Floods?

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 12, 11847, 2015.