

Hydrol. Earth Syst. Sci. Discuss., referee comment RC2
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Comment on hess-2022-172

Anonymous Referee #2

Referee comment on "Cooperation in a Transboundary River Basin: a Large Scale Socio-hydrological Model of the Eastern Nile" by Mohammad Ghoreishi et al., Hydrol. Earth Syst. Sci. Discuss., <https://doi.org/10.5194/hess-2022-172-RC2>, 2022

This paper investigated the main factors in the riparian countries' willingness to cooperate in the Eastern Nile River Basin, involving Ethiopia, Sudan, and Egypt, from 1983 to 2016. A quantitative model of the willingness to cooperate at the national and river basin scales was developed. It was found that relative political stability and foreign direct investment can explain Ethiopia's decreasing willingness to cooperate between 2009 and 2016.

Several key points for improvement of this manuscript:

- Since 2012 even earlier, the socio-hydrological community has developed a lot of socio-hydrological models to simulate various emergent human-water phenomena. Recently, on the same issue, the socio-hydrological models on conflict and cooperation either conceptually or empirically have been published. I do not understand the authors can ignore them. This leads to another concern:
- What is New in this manuscript?
- The conceptualization model should appear in the beginning of Section Methods. Otherwise, the readers could not understand what you talked about.
- More theoretical evidence should be given to justify your selection on those societal variables.
- Should have more direction discussion/comparison on your simulated C&C and those from independent sources.
- I am shocked by the manuscript does not have a discussion/implication section. After you present your results. SO WHAT?