

Interactive comment on “Modeling the effects of cold front passages on the heat fluxes and thermal structure of a tropical hydroelectric reservoir” by M. P. Curtarelli et al.

Anonymous Referee #2

Received and published: 22 July 2013

The paper showed the effects of cold front passages on the heat fluxed and thermal structure of Itumbiara Reservoir using a three-dimensional numerical modeling with field data as well as satellite data. This is generally a clear and well-presented article.

The authors provided some information about relevant former researches but their outcomes were not clear. Therefore I could not see new findings in this manuscript. I also would like to know the importance of this research, which means why authors conducted this research. Specific comments are as follows.

Specific Comments:

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1. p.8468, line 8: What does “resilience” mean?
2. p.8468, line 16: Colder than what?
3. p.8469, line 10-11: Could you site references as to “the effects of cold fronts have been reported for North American water bodies . . . in South American lakes and reservoirs” ? Moreover could you clearly tell the difference between former papers and this article?
4. p.8670, line1-3: You said “you did not consider the stability of the ABL” but later in line 9 in p.8478, you said “adjusted base on the stability of the ABL”. Which is right?
5. p.8473, line 24: Generally speaking, the inflow in a reservoir comes from the difference between the change of the reservoir volume and outflow, which suggests we do not have to use the precipitation in the simulation. Did you use daily precipitation rates for the simulation?
6. p.8476, line 6: You should not use non SI unit of “mbar”.
7. p.8477, line 22: The water albedo “for shortwave radiation”
8. p.8480, line 23: Does “average” means daily average? (same in p.8480, line 24 and in p.8481, line 14)

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 10, 8467, 2013.

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