Hydrol. Earth Syst. Sci. Discuss.,
https://doi.org/10.5194/hess-2020-320-RC2, 2020

Hydrology and Earth System Sciences
Discussions
Open Access
EGU

Interactive comment on "Thermal regime, energy budget and lake evaporation at Paiku Co, a deep alpine lake in the central Himalayas" *by* Yanbin Lei et al.

Anonymous Referee #2

Received and published: 5 August 2020

The manuscript "Thermal regime, energy budget and lake evaporation at Paiku Co, a deep alpine lake in the central Himalays" use in-situ measurements to analyze the energy budget components and obtain the evaporation amounts of Lake Paiku Co. As lake measurements are very limited on the Tibetan Plateau and most of the measurements are in the central or east parts of the Tibetan Plateau, the manuscript shows significance in describing clearly the thermal regime, energy budget and lake evaporation of a western lake on the Tibetan Plateau by in situ measurements. The structure of the manuscript is well-organized; the analysis of the processes are observation-based and reasonable; I consider the manuscript to be appropriate to be published in the HESS journal after a minor revision. The detailed comments are given as belows:

Printer-friendly version

Discussion paper

(1)In line 25-26ïijŇthe last sentence in abstract seems has not clear connection with the other contents, I suggest to revise the sentence to keep it coherent with previous contents. (2)In line 120-125, in equation (2), Ra is the downward longwave radiation to lake, while in equation (3) Ra is rewritten as the longwave radiation from lake. Here, in equation (3) and line 125, I think it should be Rw. (3)In line 129-130, as daily averaged water temperature is used, in addition to the surface mixing by wind and convection, Here I suggest to add information that “there exists surface warming during the day and surface cooling at night for high elevation lakes, thus the two uncertainties by surface warming and cooling can cancel each other at a temporal resolution of daily.” (4)In line 161, I suggest to use “period” instead of “time” here; in line 262, it should be “in low values” rather than “in low value”; Figure 3 caption, “at different depths” rather than “at different depth”; Figure 4, a unit of (OC) should be added for the colorbar.

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., https://doi.org/10.5194/hess-2020-320, 2020.

Printer-friendly version

Discussion paper