

The authors quantified evaporation/sublimation (E) during ice-free (IF) and ice-cover (IC) periods for a large lake on the Tibetan Plateau. Field observations were collected between 2014 to 2019 and used to quantify evaporation/sublimation (E) and determine the main controls on E during the IF and IC period and annually. These results were then used to validate and assess three different types of E models (Mass Transfer, atmosphere dynamics and statistical model) to determine which model(s) would be adequate for simulating E during IF, IC and Annual (AN) conditions. The models were introduced to simulate E for the 2003 to 2017 period using reanalysis data to study climate change during IF, IC and annual lake conditions. This paper presents an interesting and innovative contribution to lake E by using 6 years of continuous high-resolution and precious observation datasets. There are not too much papers assessing evaporation from the Tibetan Plateau region or studying sublimation during the ice-covered period. The significance of the results is thus important for improving our understanding of the main controls of E during both IC and IF conditions on an alpine saline lake, and these results can be helpful to improve current hydrological models of alpine lakes. Thus, I recommend this paper for publication in HESS after a major revision. Besides, I did have some concerns about this paper as follows:

Major comments:

(1) The objectives contradict some of the methods. In the second objective, the authors state that two models will be calibrated and verified, however, within the methods section three models are calibrated and verified and not just two models.

(2) Use summary tables for the observed data collection, Reanalysis of datasets, models, and variables. This will make it easier to understand the data collection, cleaning, and processing. Currently, the way these variables and their measurements are presented makes it unclear. For example, in Line 138 it is not clear if the gas analyzer is at the same height as the 3-D sonic anemometer. Besides, the observed meteorological data is in a 30 min timestep; but ERA-5 is in a 1-hr timestep. How was this addressed when assessing the fit between the observed data and the reanalysis data?

(3) E values for Antarctica are in mm/month during IC, Lines 346-347 you present the annual sum of E; but to draw comparisons to Antarctica can you put this value into monthly for the IC period? The total value does show it is larger but by showing it in the same units as Antarctica it will be easier to see how it relates monthly

(4) In the key findings you state that wind weakening is considered a key finding; however, wind weakening and its relationship to E during the IC period is not discussed. As this is considered a key finding this should be discussed.

Minor comments:

(1) Line 37: did the result for IC consider ice loss?

(2) Line 132: you should reference your site in Figure 1.

(3) Line 166: Long time should be long-time.

(4) Lines 178-183: Qui et al 2019 is the referenced method for the ice phenology dataset, however, how do they account for the accuracy of the ice dataset you are using for your analysis? Using visible MODIS to ascertain freeze dates can be difficult, as the ice must be substantial enough to change the reflective properties. A few brief sentences to expand on the methods in this section would do well to provide context for the accuracy of the ice dataset you are using.

(5) Fig S3: the x-axis should be the same for all 3 figures. They should all range from 0 to 60%; if you are to just glance at the figures and not read the axis label/units one would assume they all contribute the same during each period.

(6) Fig S5: the y-axis should have the same scale for all figures. Why is the x-axis for ice cover 1 year? Whereas the IF and AN showing 3 and 4 years respectively? Your caption states they are showing the results from 2014-2018.

(7) Fig 1: DEM needs units, missing the line for rivers in the legend, is the scale the same for the inset map?

(8) When using the abbreviations for ice-covered (IC) or ice-free (IF), they are missing context (or a word) such as conditions or periods.