

Dear Reviewer,

Thank you for giving us a chance to improve the manuscript in a new revision. There are indeed needs for this. We implemented many corrections, and in particularly following your specific comments:

Line 47: To improve succinctness could read " typically estimates as the residual (Singh ...)"

A: We replaced "the discrepancies" with "the residuals" here and further in the text.

Lines 50 - 52: The text in the parentheses could be made more concise.

A: "The bulk-aerodynamic approach estimated the evaporation on the basis of data on land surface properties (surface type, temperature, and roughness) and atmospheric variables (wind speed, specific humidity and air temperature) in the atmospheric surface layer (Brutsaert, 1982)."

Lines 65 - 66: This is one example that highlights the paper needs a very thorough proofread to ensure the English grammar is sound.

A: We corrected the text: "Combination approaches integrate elements of both the energy budget and mass-transfer principles (Penman, 1948). A more comprehensive form is the Penman-Monteith equation (Monteith, 1965), which was originally developed to estimate evapotranspiration from vegetated surfaces. In the empirical approach, daily or monthly lake evaporation rates are related to variables such as lake surface area, incoming solar radiation, diurnal minimum and maximum of air temperature and relative humidity (Konstantinov, 1968, Zhao et al., 2013, Spank et al., 2025). Simplified versions of both combination and empirical formulas have been applied to Antarctic lakes although their associated uncertainties are not well known (Borghini et al., 2013; Dhote et al., 2021; Kuznetsova et al., 2021). A key limitation of the empirical, mass transfer and combination approaches is that their performance is restricted to the geographical and climatic conditions, under which their empirical coefficients were originally derived (Finch and Hall, 2001). To improve their applicability, the mass transfer coefficients are often calibrated based on measurements from eddy covariance (EC) systems (Ala-Könni et al., 2022, Nordbo et al. 2011)."

We added to the references: Kuznetsova M.R., Priakhina G.V., Grigoreva S.D., Kiniabaeva E.R. Formation factors of surface inflow to Antarctic lakes of the Larsemann Hills oasis.

Problemy Arktiki i Antarktiki. Arctic and Antarctic Research. 2021, 67 (3): 293–309 [In Russian]. <https://doi.org/10.30758/0555-2648-2021-67-3-293-309>

End of Introduction: There needs to be a sentence bridging the ideas that summarize the literature and the study objectives. Perhaps something like "What is unknown is"

A: We added the text "What is unknown is the actual range of values of the transfer coefficients for Antarctica. "

Line 117: The authors are not using "fetch" properly. This should read "To represent an area with eddy-flux measurements...."

A: We corrected it.

Line 141: Please include humidity in this list of terms measured at the tower. Table 2 might not be necessary.

A: We included the relative humidity to the list of measured variables, and removed Table 2.

Line 254-255: You can delete this sentence as it was stated earlier.

A: Deleted.

Section 4.3: I would debate that these are not combination formulas as they have been historically used, and would be best called empirical. I strongly suggest removing the term "combination" as it is applied here throughout the paper.

A: We excluded the "combination" naming the formulas as "empirical" here and elsewhere

Line 315: I believe the authors mean "stability" rather than "stratification" here and elsewhere.

A: Indeed. We mean the stability here and elsewhere.

Table 5: The authors could list the average of the wind dependent values here, which I think is ~1.2. It would provide a valuable comparison with the other values.

A: We added the values.

Additionally, the following corrections were done: in Fig. 1, we corrected the sites' names in subfigure (b); in Fig. 3, we corrected subfigure (a); in Fig. 5 we replaced the wind rose by a radial histogram which illustrates a mean wind speed in each sector of wind directions; in Fig. 7, we corrected the x-axis label. We also corrected the acknowledgment. The revised manuscript was proofread and edited for English language proficiency, flow, and clarity using the Gemini AI system. Final proofreading was made by the authors.

*Elena Shevnina,
from behalf of all Authors*