

Reviewer 2, specific comments:

Lines 520–521: To better understand the relationship between blowing snow transport and blowing snow burdens, I suggest explaining how blowing snow burdens are actually defined/calculated. This could be done in the caption of Figure S5.

We appreciate the comments and suggestions made by the reviewer. We have added additional language which defines blowing snow burdens to the caption of Figure S5.

Lines 538–542: From my point of view, it is an important finding that blowing snow transport plays a relatively minor role in the basin-scale snow budget. It suggests that snow redistribution by blowing snow transport can be neglected. Given the high variability in wind direction and wind speed, I wonder whether the low divergence of blowing snow transport in Fig. 7c is just a consequence of averaging. To exclude averaging biases and to substantiate the finding, it would be helpful showing the divergence of blowing snow transport separately for the individual cold seasons, for instance as additional figure in the supplement.

At the suggestion of the reviewer, we have also added a new Figure S6 which shows the interannual variability of blowing snow divergence inferred from ICESat-2. While the basin-wide values remain small due to the spatial averaging (mean $< 10^{-3}$ mm SWE) there is large interannual variability that aligns with our discussion of the Arctic Oscillation (AO) in the original text. For example, we found substantially more divergence during the 2019-2020 cold season (positive AO phase with increased storminess) compared to the 2020-2021 cold season (negative AO phase with suppressed storminess). We have added discussion to the revised manuscript about the interannual variability and its correlation to the AO phase and increased blowing snow occurrence.

Reviewer 2 technical items:

Lines 237–238: (as described in section 2.5 and Table 1 of (Liston et al., 2020) → (as described in section 2.5 and Table 1 of Liston et al., 2020) [two left parentheses but only one right parenthesis]

This has been fixed in the revised text.

Line 250: sublimation is a calculated as → sublimation is calculated as

This typo has been fixed in the revised text.

Line 308: transited from Svalbard towards the Canadian Arctic Archipelago → transited from the Canadian Arctic Archipelago towards Svalbard [as Figure 1 indicates]

The wording has been reversed in the revised text at the suggestion of the reviewer.

Line 410: 21.9 % → 21.8 %

This has been fixed in the revised text.

Line 414: (b,d) → (c,f)

This has been fixed in the revised text.

Lines 445–446: The temperature range "-25 °C to -20 °C" is missing in the caption of Figure 5.

The "-25 °C to -20 °C" range has been added to the revised figure caption.

Line 470: Fig. 5e → Fig. 5f

This has been corrected in the revised text and updated to reflect the new order of figures.

Line 515: Fig. 1 → Fig. 2

This has been corrected in the revised text and updated to reflect the new order of figures.

Line 519: Fig. 1b → Fig. 2b

This has been corrected in the revised text and updated to reflect the new order of figures.

Line 540: Fig. 7e → Fig. 7c

This has been corrected in the revised text and updated to reflect the new order of figures.

Line 569: 2021-22 → 2020-21 [if actually referring to Fig. 4; the NSIDC-reference is misleading and can be dropped]

The years have been corrected in the revised text and the NSIDC reference has been removed.

Line 597: Fig. S7 → Fig. S8

This has been corrected in the revised text and updated to reflect the new order of figures.