This study utilizes ICESat-2 data from November 2018 to November 2019 to generate a new DEM over Greenland, and validates the newly generated DEM with IceBridge ATM data obtained in May 2019. This study also presents a comparison of different DEM products. I think that this paper is interesting and the topic is suitable to ESSD. However, several major comments should be seriously considered.

Major comments:
1. The present language quality is not good enough and needs to be improved throughout. For example, Page 1 Line 10-11, “but long temporal coverage introduced additional time uncertainty to scientific research”, what does time uncertainty mean? Line 11-12 “with a definite time”, what does it mean? Page 2 Line 49, “Hence”? Page 3 Line 97, “by different beams”? Page 9 Line 253, “Of these” should be “Among them”.

2. The resample resolution of IceBridge is about 25 m, how to validate the ICESat-2 DEM with different spatial resolution (namely, 500 m, 1 km, 2 km). Please clarify.

3. Please rewrite the Method part in Page 6, Line 164-173, which is different to understand. When the ICESat-2 data were gridded to fine resolution (i.e. 500 m), there would be many gaps. These gaps will be filled with values from coarse-grid data (i.e. 1 km or 2 km)? “We set the minimum number of grid points to 10 and the minimum timestamp to 2 months ...”? What does this sentence mean and how the values of 10 and 2 were determined? “In addition, we introduced thresholds to remove outliers, which are RMSE≥10 m, the uncertainty of elevation change ≥10 m ...” Please clarify how these thresholds were calculated?

4. Please rewrite the conclusions in Section 5.2 and Section 6. Due to time discrepancy between different DEM products, I don’t think it is possible to validate ICESat/GLAS DEM (2003~2005), ArcticDEM (2015~2018), TanDEM (2011~2014), CryoSat-2 DEM (2011~2014) using IceBridge data acquired in May 2019 and current results can support the conclusion that the ICESat-2 DEM showed significant improvements in accuracy compared with other altimeter-derived DEMs (in Page 1 Line 20~25). If possible, I suggest selecting areas with little elevation changes and doing the comparison.

5. Since the ICESat-2 data is available from 2018 to present, two years’ DEM products
could be generated and compared. Otherwise, the specific time should be added to the title, for example, “A new Greenland digital elevation model derived from ICESat-2 during 2018-2019”.

General comments:

Page 2 Line 37: “The previously published Greenland DEM dates back to the 1980s ...”. “previously” would be “first”, since “previously published” would have several DEM products?

Page 2 Line 38-40: “However, the data acquisition was limited by the low-visibility contrast between snow and ice surfaces (Noh and Howat, 2015), which introduced large time uncertainty into the DEM.” How the low-visibility contrast introduced large time uncertainty. Please clarify.

Page 3 Line 78-79: “IceBridge data were used to evaluate the accuracy for all of Greenland and for different basins.” According to Figure 1 in Page 16, the IceBridge data didn’t coverage all the Greenland, please rewrite this sentence.

Page 3 Line 91-92: “However, for strong and weak beams in the ATL06 product, both beams in one pair show similar performance, with a median difference of -0.08 cm and -0.13 cm for strong beam2 and weak beam1” The statement is confusing. “a median difference”, compared with what? The results is for strong beam2 and weak beam1, what about the other beams? Please clarify.

Page 4 Line 107-112, what do α, β, αs,n, αw,e, β0 stand for? Please clarify.

Page 5 Line 145-150, what does h, a0 to a4 stand for? Please clarify how to get a0 to a4 and dh/dt.