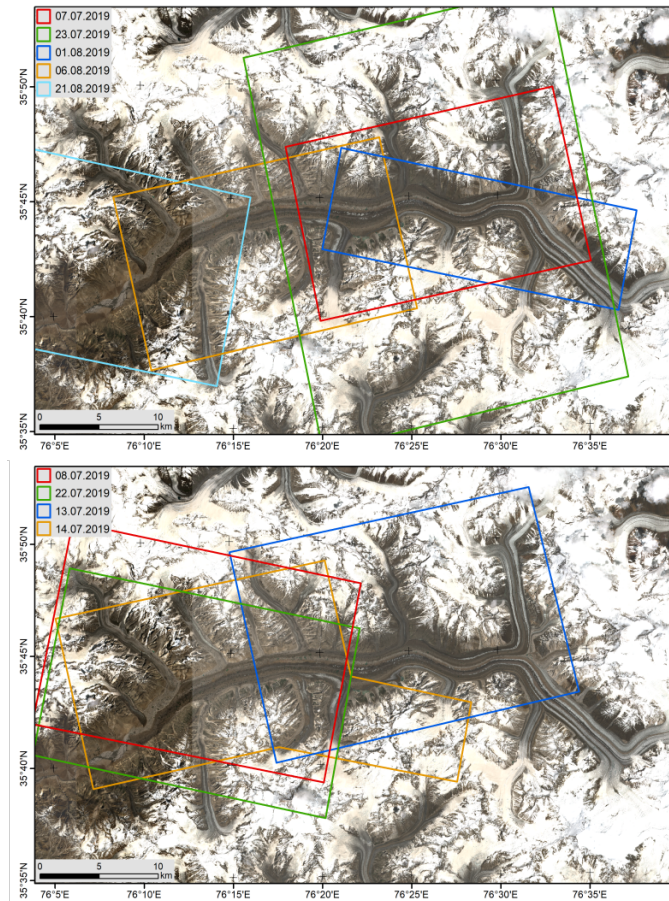


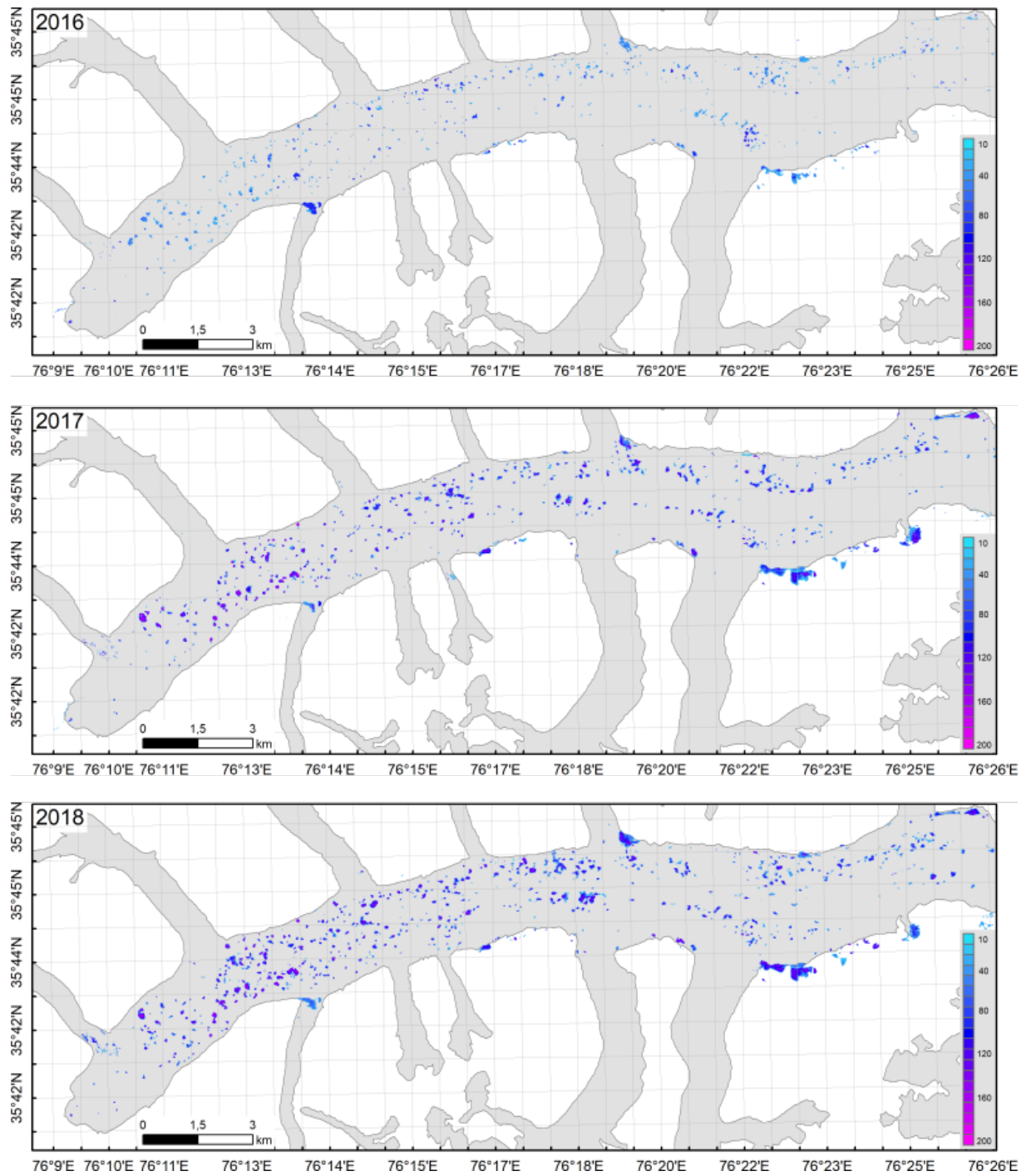
## Supplementary Material

### 1 SUPPLEMENTARY TABLES AND FIGURES

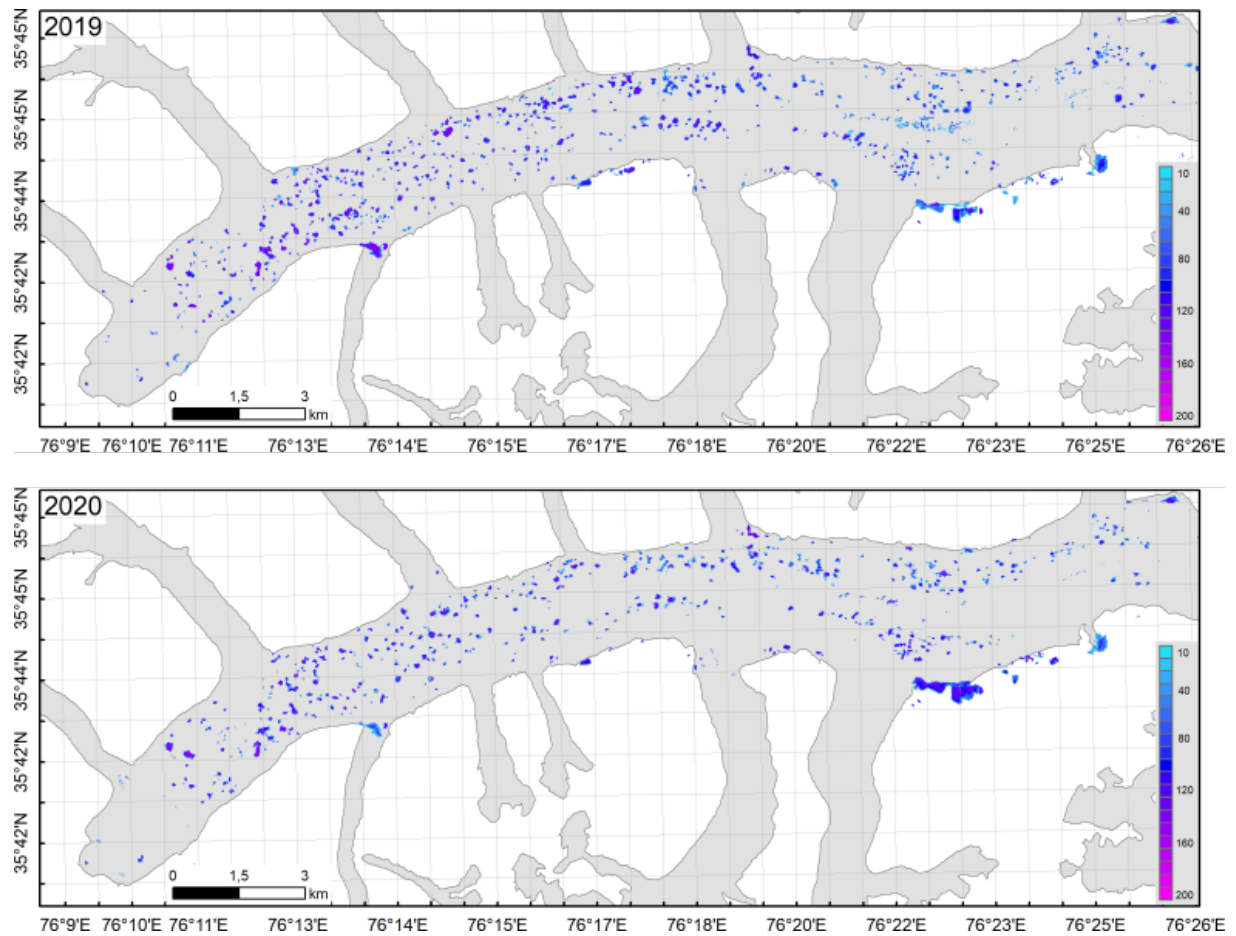
#### 1.1 Figures



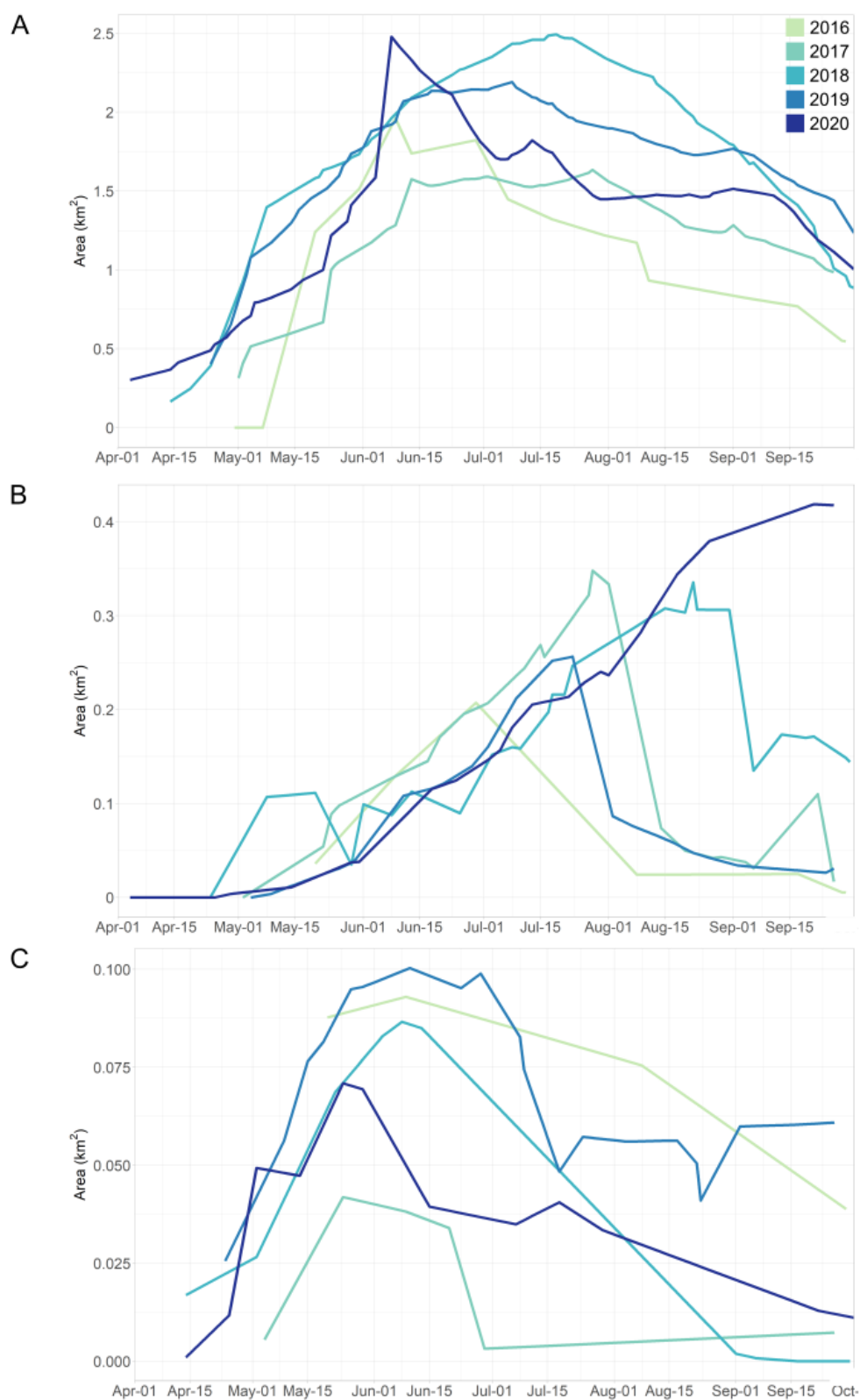
**Figure S1.** Overview of the acquisition coverages used for the accuracy assessment of the supraglacial lake area for optical and SAR data.



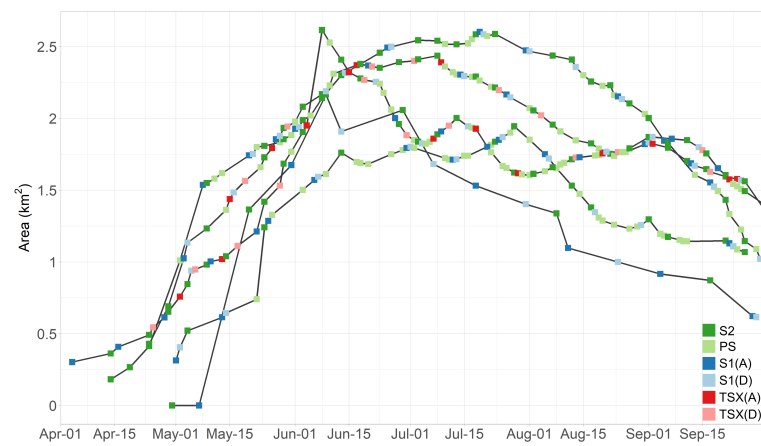
**Figure S2.** Distribution of supraglacial lakes and duration of water coverage in days for the complete glacier for 2016 to 2018



**Figure S3.** Distribution of supraglacial lakes and duration of water coverage in days for the complete glacier for 2019 to 2020



**Figure S4.** Seasonal evolution of the total area of the supraglacial lakes (A) and the two ice-dammed lakes Yermanendu Lake (B) and Liligo Lake (C) in  $\text{km}^2$  from April to September for the years 2016 to 2020. Take care of the different scale of the y-axes.



**Figure S5.** Seasonal evolution of the total supraglacial lake area from April to September for 2016 to 2020 and sensor specification used for the lake classification.