

Sup. Fig. The differences in daily average air temperature (AT), and daily precipitation between the inner and outer fjord based on ERA-interim reanalysis (Dee et al., 2011).

Table 1 Variables used to create the assessment and parametrization datasets, and for iSPM simulations

iSPM reconstruction	iSPM in simulation results	iSPM input to the model	Parametrization of iSPM input
SPM measurements annual sum of PDD	$dC_{iSPM}/dt = C_{iSPM} + C_{iSPMinput}$ general system dynamics	Parametrization 6accPDD (Polish Polar Station) Salinity (from Jakacki et al., 2018)	Sediment Flux measurements 6accPDD (Polish Polar Station) Salinity measurements

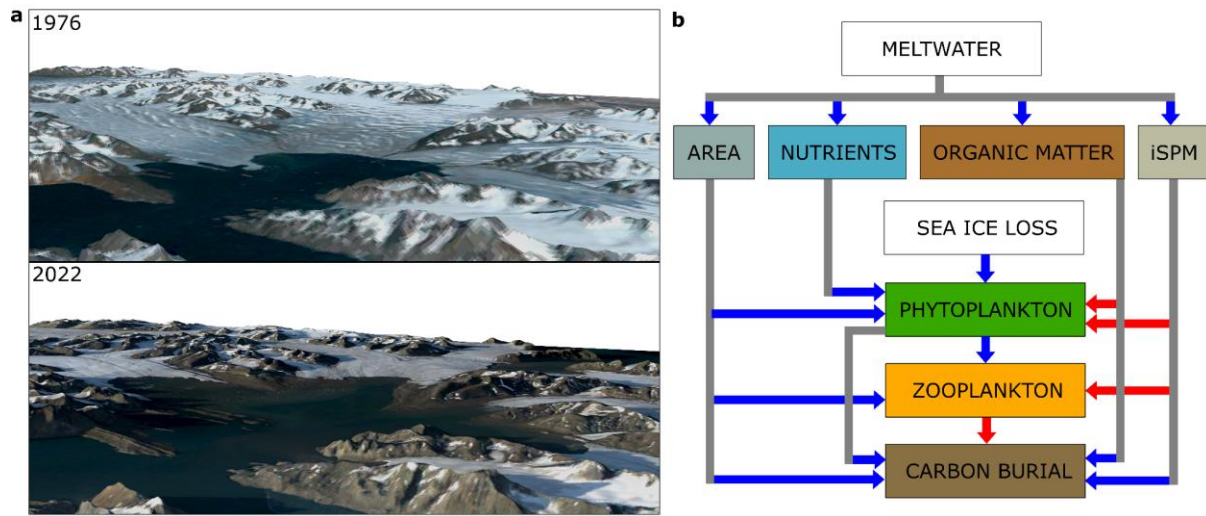


Figure 7