

Supplementary Materials for

Estimation of ice melt, freshwater budget, and their multi-decadal trends in the Baffin Bay  
and Labrador Sea

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This PDF file includes:

Table. S1

Table. S2

Table S1: Outputs of river runoff from the energy balance model for each individual basin around Baffin Bay and the Labrador Sea (see the basin limits in Fig. 4). NFL stands for Newfoundland and Labrador, BFN for Baffin Island, DVN for Devon Island, GNW for north-western Greenland, GCW for center-west Greenland, and GSW for southwestern Greenland.

Components	Freshwater volume (km <sup>3</sup> )	Freshwater volume 1965-1995 (km <sup>3</sup> )	Freshwater volume 1996-2022 (km <sup>3</sup> )
NFL	300.7	298.7	303.1
BFN	95.2	93.2	97.6
DVN	2.7	2.6	2.8
GNW	7.7	7.4	8.1
GCW	8.6	8.2	9.1
GSW	42.8	42.8	42.7
<b>Total runoff</b>	<b>457.7</b>	<b>452.9</b>	<b>463.4</b>

Table S2: Outputs of glacier melt from the GLIMB model for each individual basin around Baffin Bay and the Labrador Sea (see the basin limits in Fig. 4)

Components	Freshwater volume (km <sup>3</sup> )	Freshwater volume 1965-1995 (km <sup>3</sup> )	Freshwater volume 1996-2022 (km <sup>3</sup> )
NFL	0.1	0.1	0.1
BFN	53.3	40.9	67.6
DVN	28.9	19.5	39.6
GNW	94.2	64.8	128.0
GCW	77.7	66.7	90.0
GSW	173.6	155.8	194.0
<b>Total runoff</b>	<b>427.8</b>	<b>347.8</b>	<b>519.3</b>