

**The Stepwise Reduction of Multiyear Sea Ice Area in the Arctic Ocean
Since 1980.**

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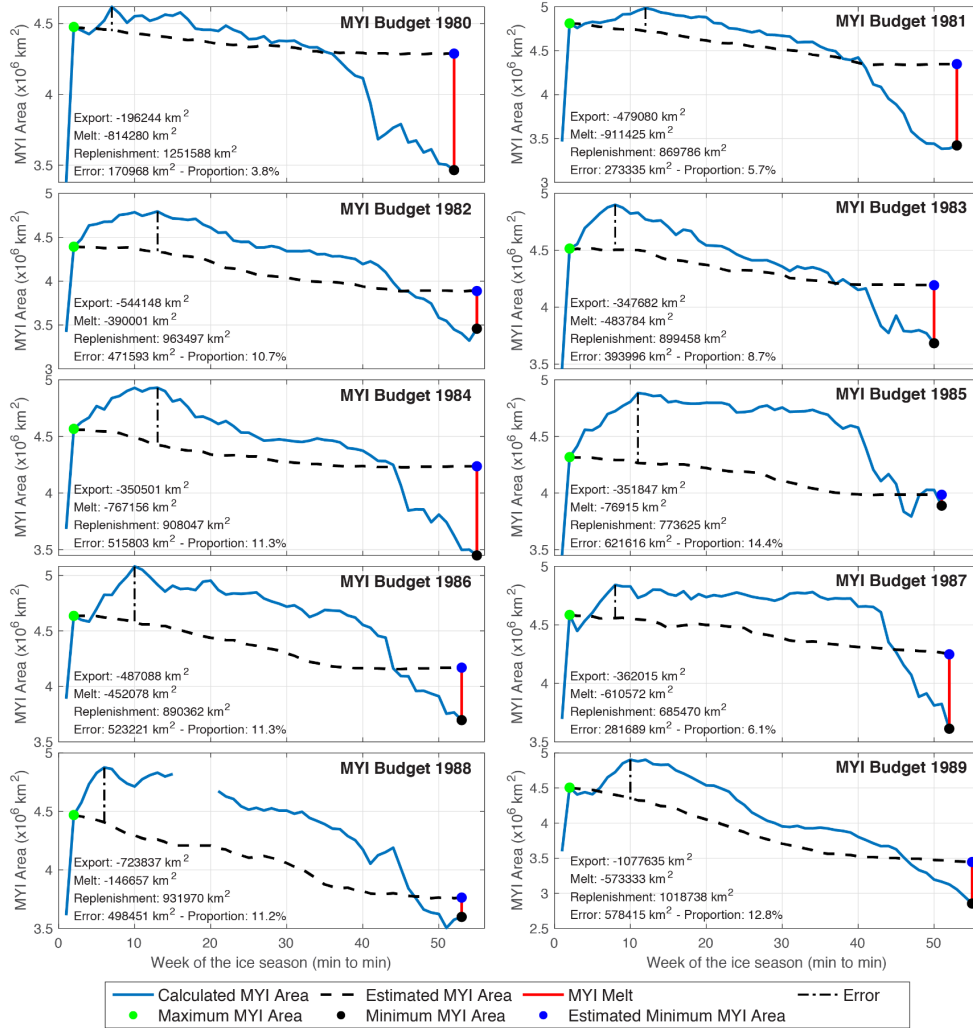
Figure S1 and Figure S2

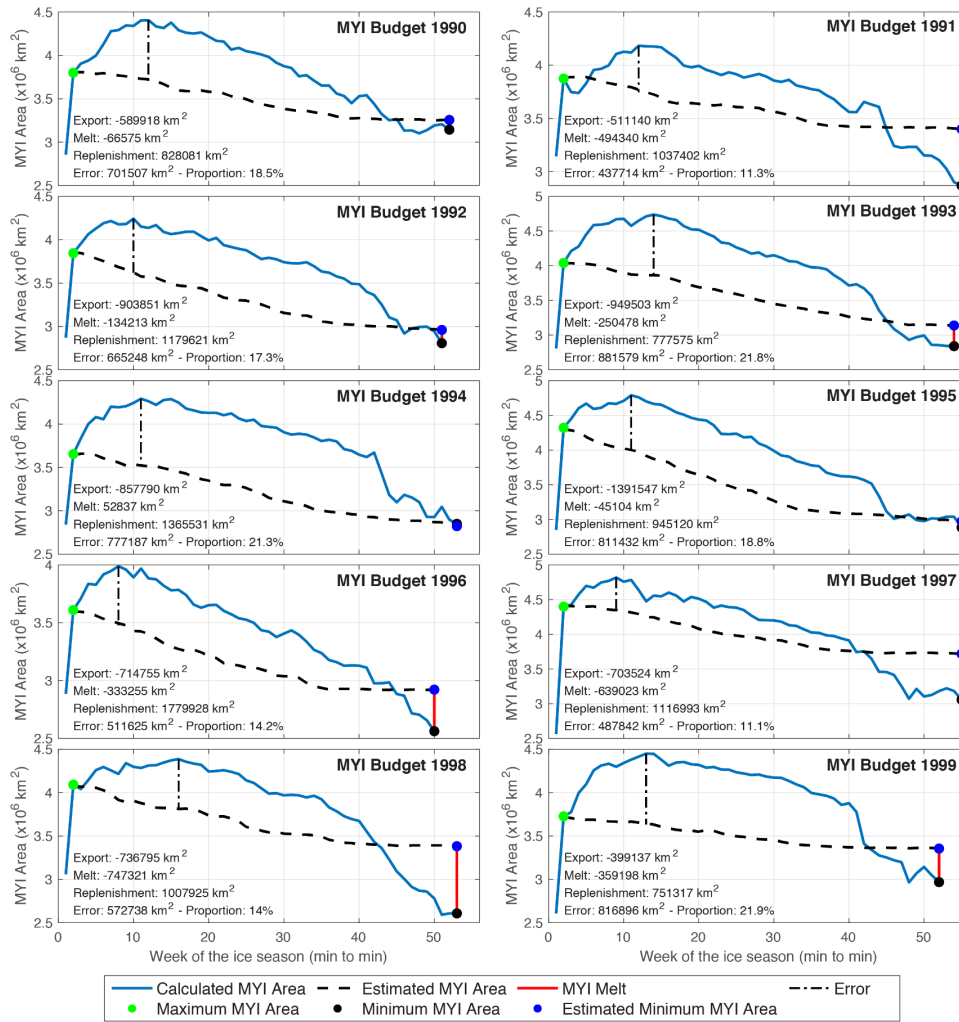
Introduction

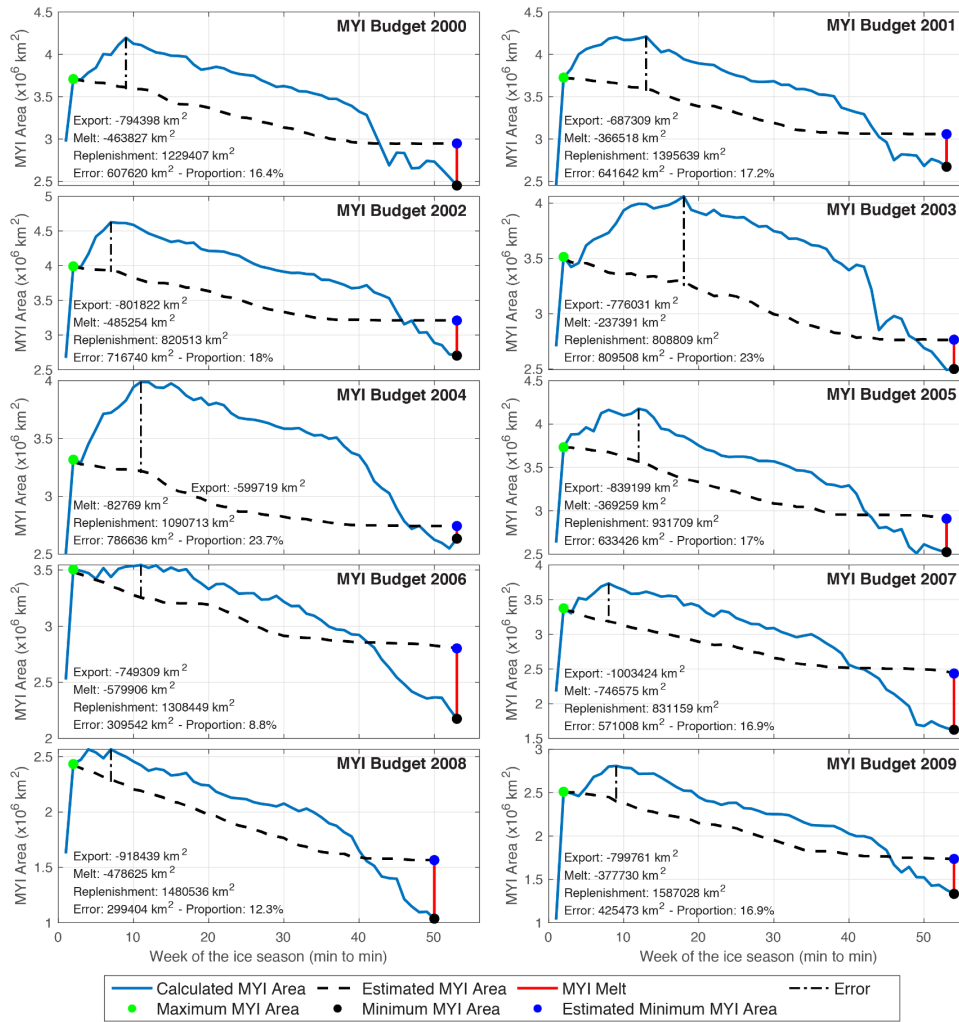
Supplementary Figure 1 presents the annual records of MYI area and the three MYI budget terms for each year from 1980-2021. There are 42 subplots over 5 figures.

Supplementary Figure 2 presents the estimated and observed time series of total sea ice export through Nares Strait.

Figure S1. Plots of the annual MYI Budget for the Arctic Ocean from 1985 - 2021. The terms of Export, Melt and Replenishment, along with the error that accumulates during freeze up are given in each panel. The error is given as both a magnitude of area and percentage of the true maximum area.







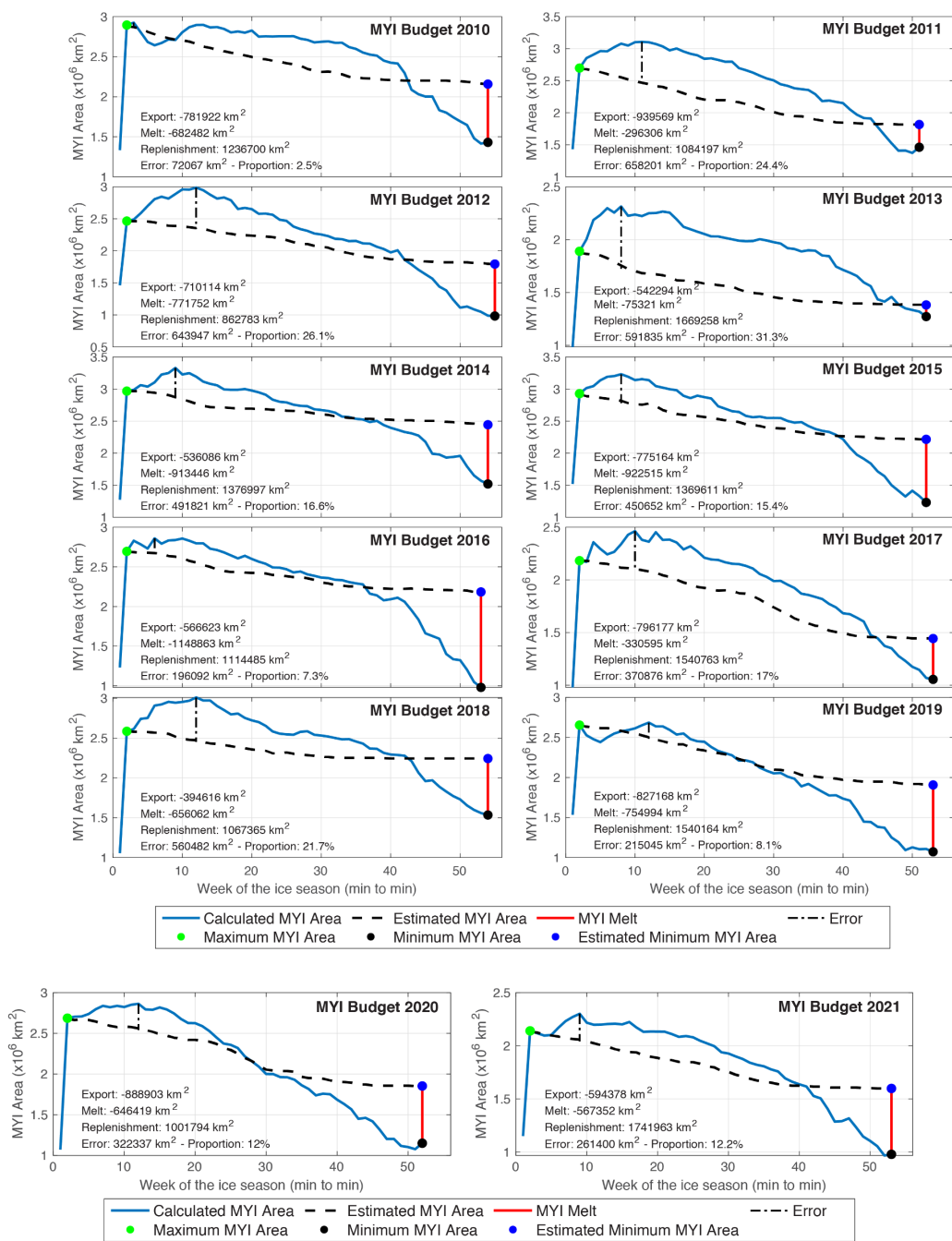


Figure S2. Time series of observed and estimated total ice export into Nares Strait from 1979 to 2021. Observed fluxes from Kwok (2005) and Kwok et al., (2010) are in blue, and Moore et al., (2021) are in red. Estimates based on the relationship between open water duration and total ice flux ($F = 285.74 * \text{duration} - 19577$) are presented in yellow.

