



Supplement of

Comparison of sea ice kinematics at different resolutions modeled with a grid hierarchy in the Community Earth System Model (version 1.2.1)

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Supplementary Info for "Comparison of Sea Ice Kinematics at Different Resolutions Modeled with a Grid Hierarchy in Community Earth System Model (version 1.2.1)"

This supplementary file includes the figures that accompany the manuscript "Comparison of Sea Ice Kinematics at Different Resolutions Modeled with a Grid Hierarchy in Community Earth System Model (version 1.2.1)".



Fig. S1 Arctic Oscillation mode (panel a) and principle component (PC, panel b) from 50-year wintertime SLP fields of NCEP reanalysis. The spatial pattern is normalized and the PC carries the same unit of the SLP anomaly (hPa). The weekly AO sequence of the CORE-2 NYF is shown in panel c.



Fig. S2 Distribution of total deformation rate on Dec. 20th. First row, second row and third row represent the model output from TS045, TS015 and TS005, respectively. Shearing rate, divergence rate, and total deformation rate in the left, central and right column, respectively. The lines are color-coded as follows: blue for NDTE=120, black for NDTE=240, green for NDTE=480, and red for NDTE=960.



Fig. S3 Same as Fig. S2, but for Feb. 6th.



Fig. S4 Two-week mean sea ice velocity in Canadian Arctic Archipelago. First two weeks (Jan. 1st to Jan. 14th) of model output with TS005 is used to illustrate the region of landfast sea ice during winter.



Fig . S5 Total deformation rate within CAA for TS005 on Dec. 20th with NDTE=120 (a), NDTE=240 (b) and NDTE=960 (c).