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Supplement of

The contribution of melt ponds to enhanced Arctic sea-ice melt during the Last Interglacial

Rachel Diamond et al.

Correspondence to: Rachel Diamond (rachel.diamond17@imperial.ac.uk) and Louise C. Sime (lsim@bas.ac.uk)

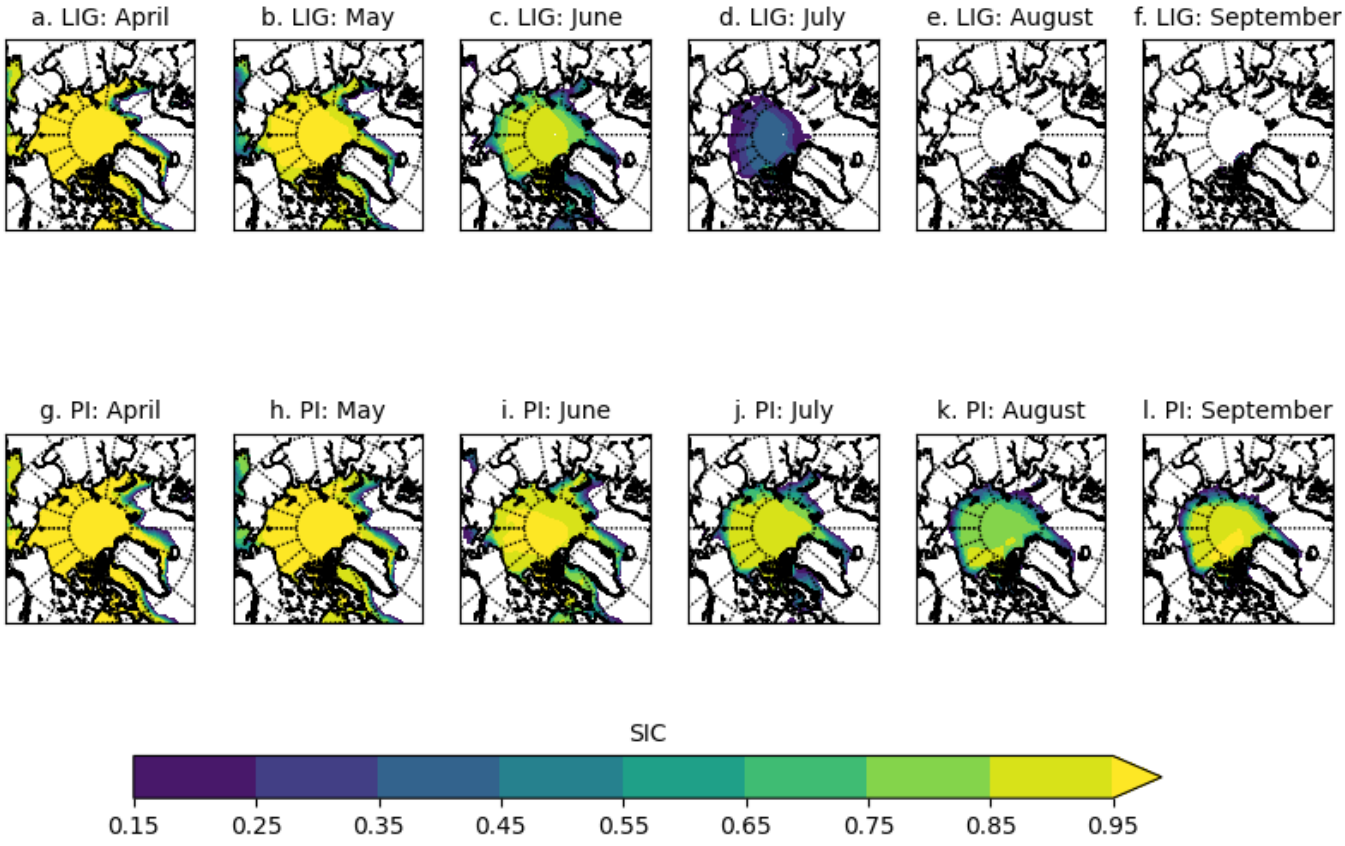

Figure S1. Maps of mean simulated sea-ice concentration for LIG and PI. The 200-year mean for each month is computed from monthly model output. Only ice-covered cells are shown. Months April, July and September presented also in Guarino et al. (2020b)

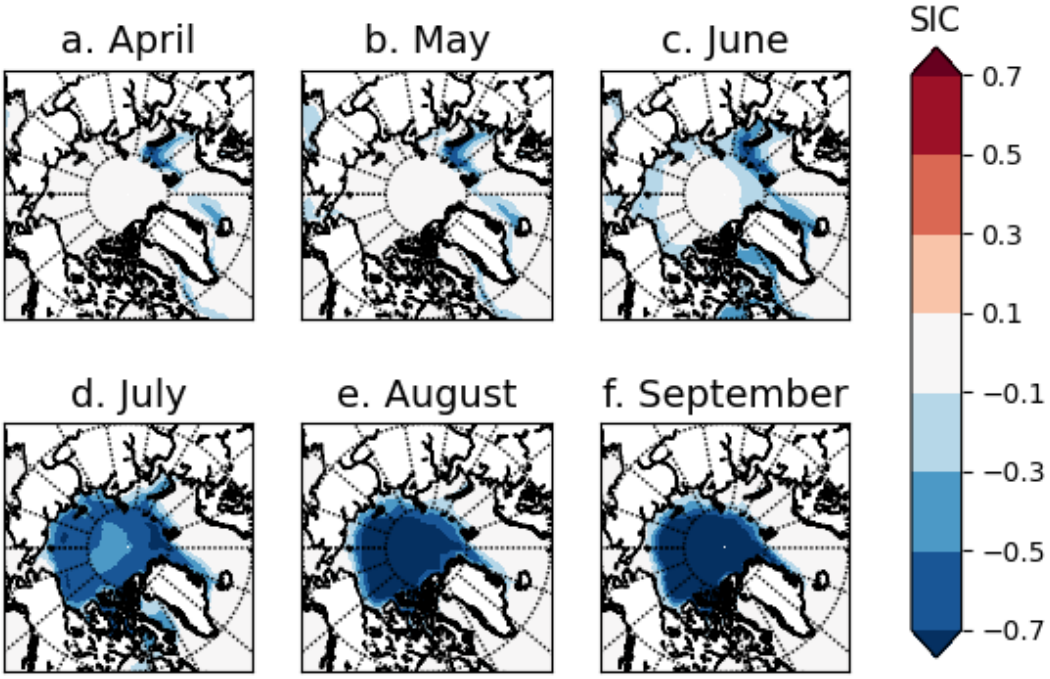

Figure S2. Maps of LIG - PI anomaly of mean simulated sea-ice concentration. The 200-year mean over the Northern Hemisphere for each month from April-September shown is computed as the time-average from monthly model output. Only ice-covered cells are shown.

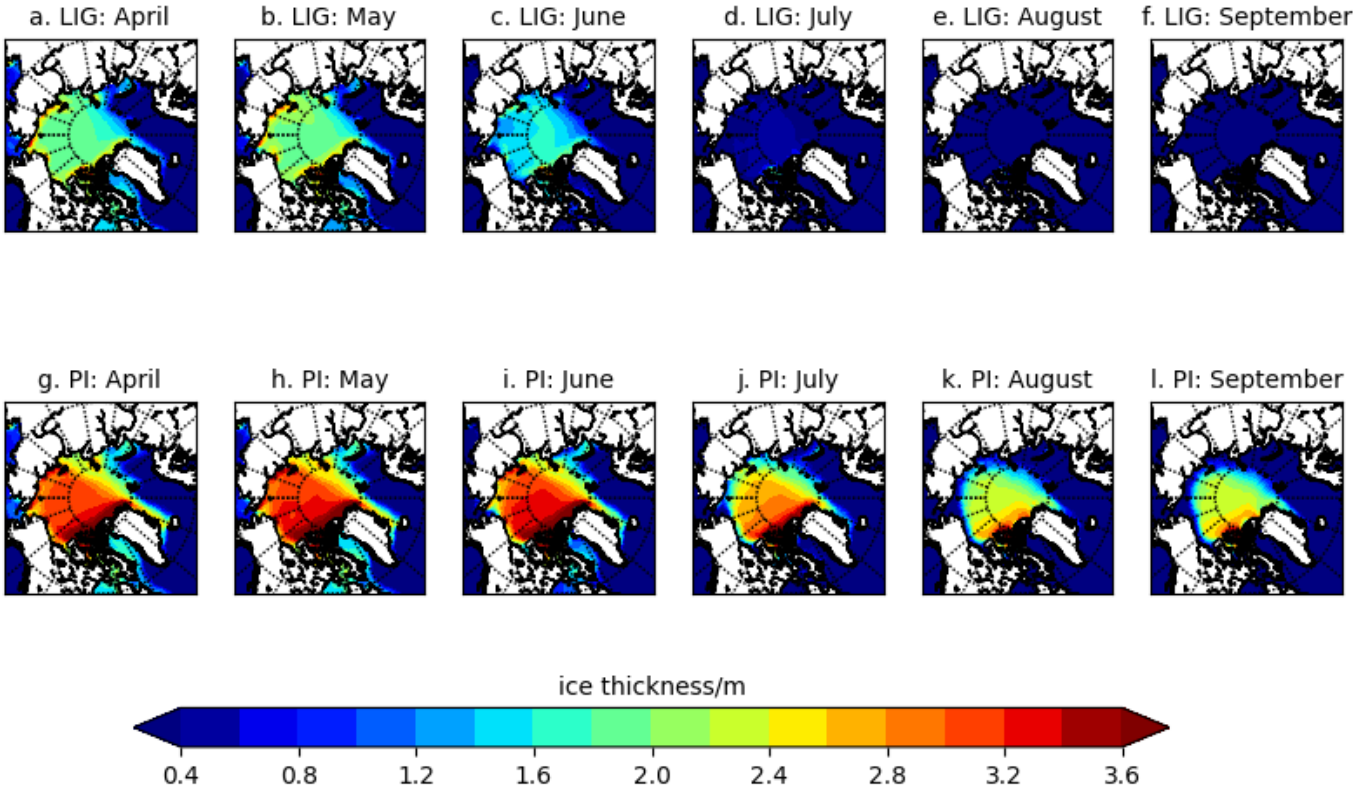

Figure S3. Maps of mean simulated ice thickness for LIG and PI. The 200-year mean for each month is computed from monthly model output.

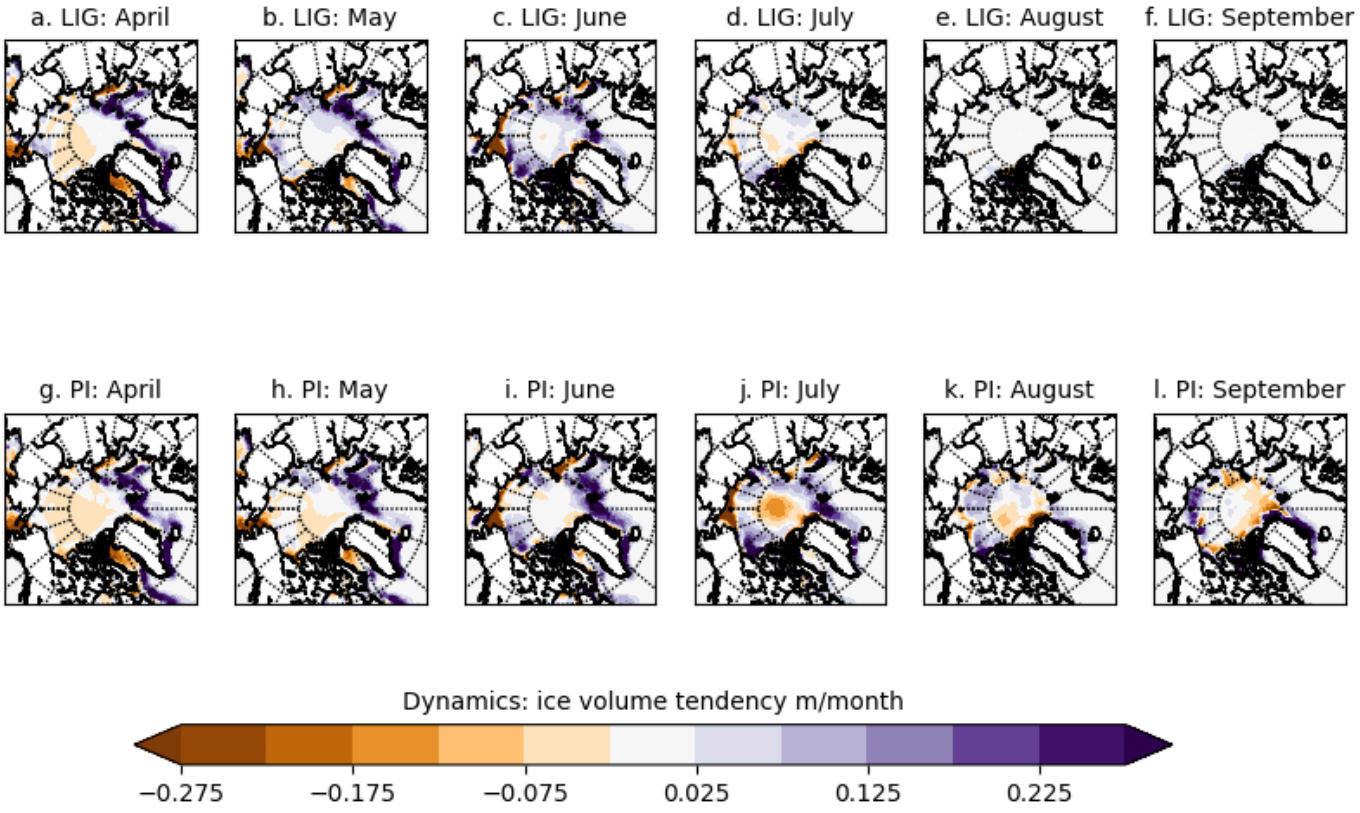

Figure S4. Maps of mean simulated ice volume tendency [m/month] due to dynamics, for the LIG and PI. The 200-year mean over the Northern Hemisphere for each month from April-September is shown, computed as the time-average from monthly model output. Note: as the magnitude of the change in ice volume due to dynamics during the summer months is significantly smaller than the change due to thermodynamics, the colorbar scale is 1/4 of the colorbar scale shown in Fig. 6

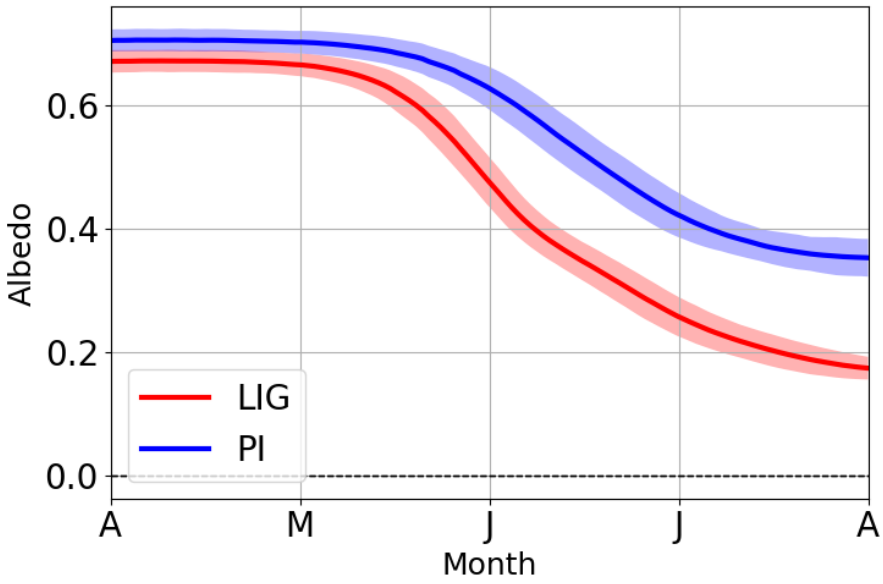

Figure S5. Climatology of Arctic surface albedo. For both LIG and PI, for each day of the year, the albedo was computed as described in Section 2.3. The 200-year mean from 70°N - 90°N for the LIG (red) and PI (blue) simulations is shown.

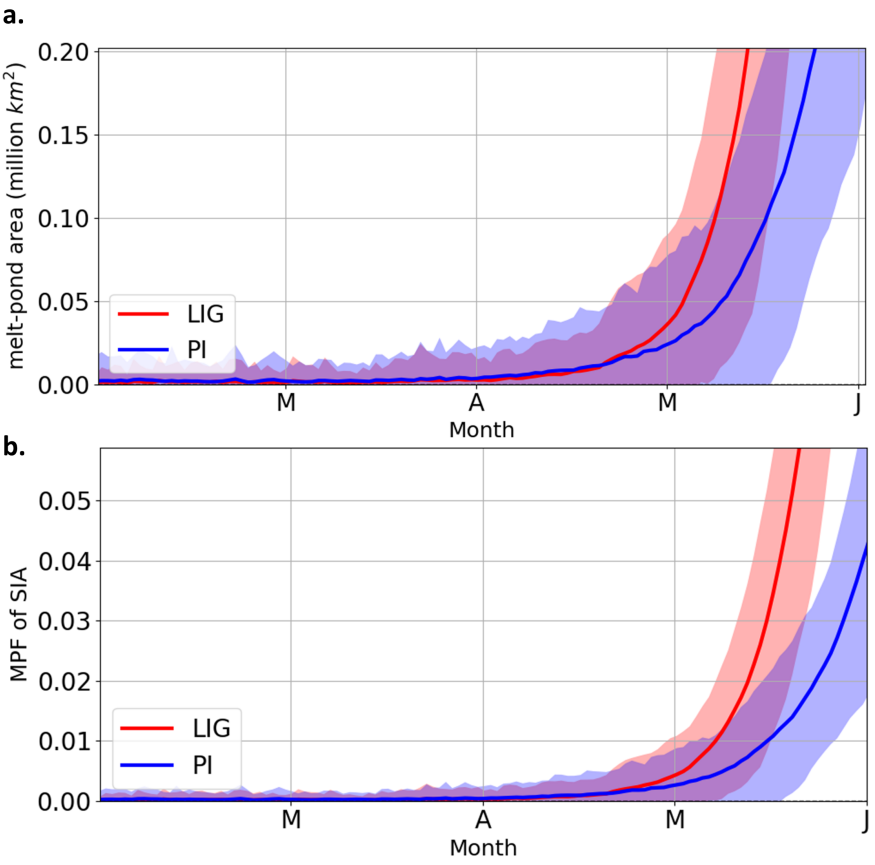

Figure S6. Initial spring increase of Arctic melt pond area. (a) shows total melt pond area, (b) shows melt pond fraction of sea-ice. For each figure, for the LIG (red) and PI (blue) simulations, the 200-year mean was computed from daily model output variables grid-cell sea-ice area and melt pond area, over the region from 70°N - 90°N. Shaded area is ± twice the standard deviation. Only ice-covered grid-cells were used.