Supporting Information:
Partitioning uncertainty in projections of Arctic sea ice

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	model	ensemble member	RCP2.6	RCP4.5	RCP8.5
1.	ACCESS1.0	r1i1p1		✓	✓
2.	ACCESS1.3	r1i1p1		✓	✓
3.	BCC-CSM1.1	r1i1p1			✓
4.	BCC-CSM1.1(m)	r1i1p1			✓
5.	CanESM2	r1i1p1	✓	✓	✓
6.	CCSM4	r1i1p1	✓	✓	✓
7.	CESM1(BGC)	r1i1p1	✓	✓	✓
8.	CESM1(CAM5)	r1i1p1	✓	✓	✓
9.	CMCC-CESM	r1i1p1			✓
10.	CMCC-CM	r1i1p1		✓	✓
11.	CMCC-CMS	r1i1p1		✓	✓
12.	CNRM-CM5	r1i1p1	✓	✓	✓
13.	FIO-ESM	r1i1p1			✓
14.	GFDL-CM3	r1i1p1	✓	✓	✓
15.	GFDL-ESM2G	r1i1p1	✓	✓	✓
16.	GFDL-ESM2M	r1i1p1	✓	✓	✓
17.	HadGEM2-CC	r1i1p1		✓	✓
18.	HadGEM2-ES	r1i1p1	✓	✓	✓
19.	INM-CM4	r1i1p1		✓	✓
20.	IPSL-CM5A-LR	r1i1p1	✓	✓	✓
21.	IPSL-CM5A-MR	r1i1p1	✓	✓	✓
22.	IPSL-CM5B-LR	r1i1p1		✓	✓
23.	MIROC-ESM	r1i1p1	✓	✓	✓
24.	MIROC-ESM-CHEM	r1i1p1	✓	✓	✓
25.	MIROC5	r1i1p1	✓	✓	✓
26.	MPI-ESM-LR	r1i1p1	✓	✓	✓
27.	MPI-ESM-MR	r1i1p1	✓	✓	✓
28.	MRI-CGCM3	r1i1p1	✓	✓	✓
29.	NorESM1-ME	r1i1p1	✓	✓	✓
30.	NorESM1-M	r1i1p1	✓	✓	✓

Table 1: List of the fully-coupled climate models and ensemble member used in this study. The check marks denote the output that was available for each RCP scenario.

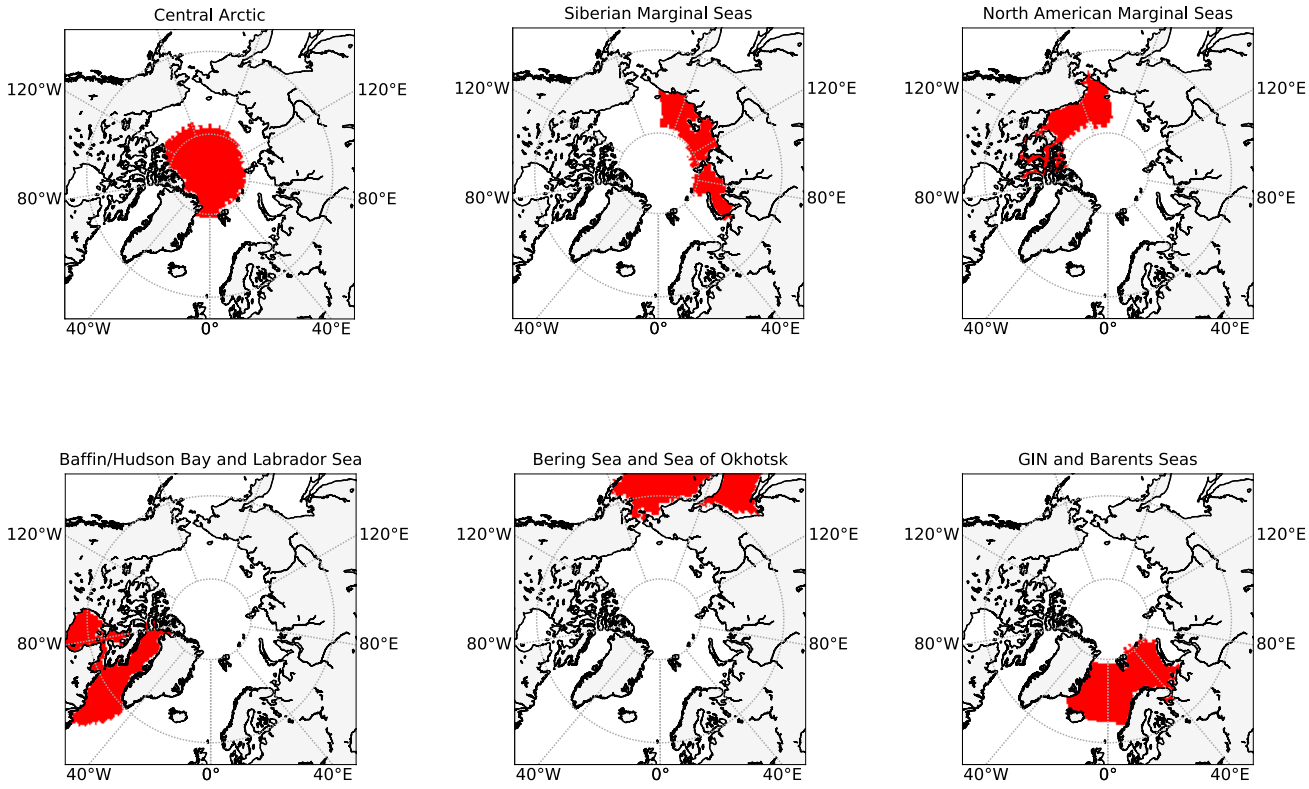

Figure 1: The regional Arctic domains considered in this study.

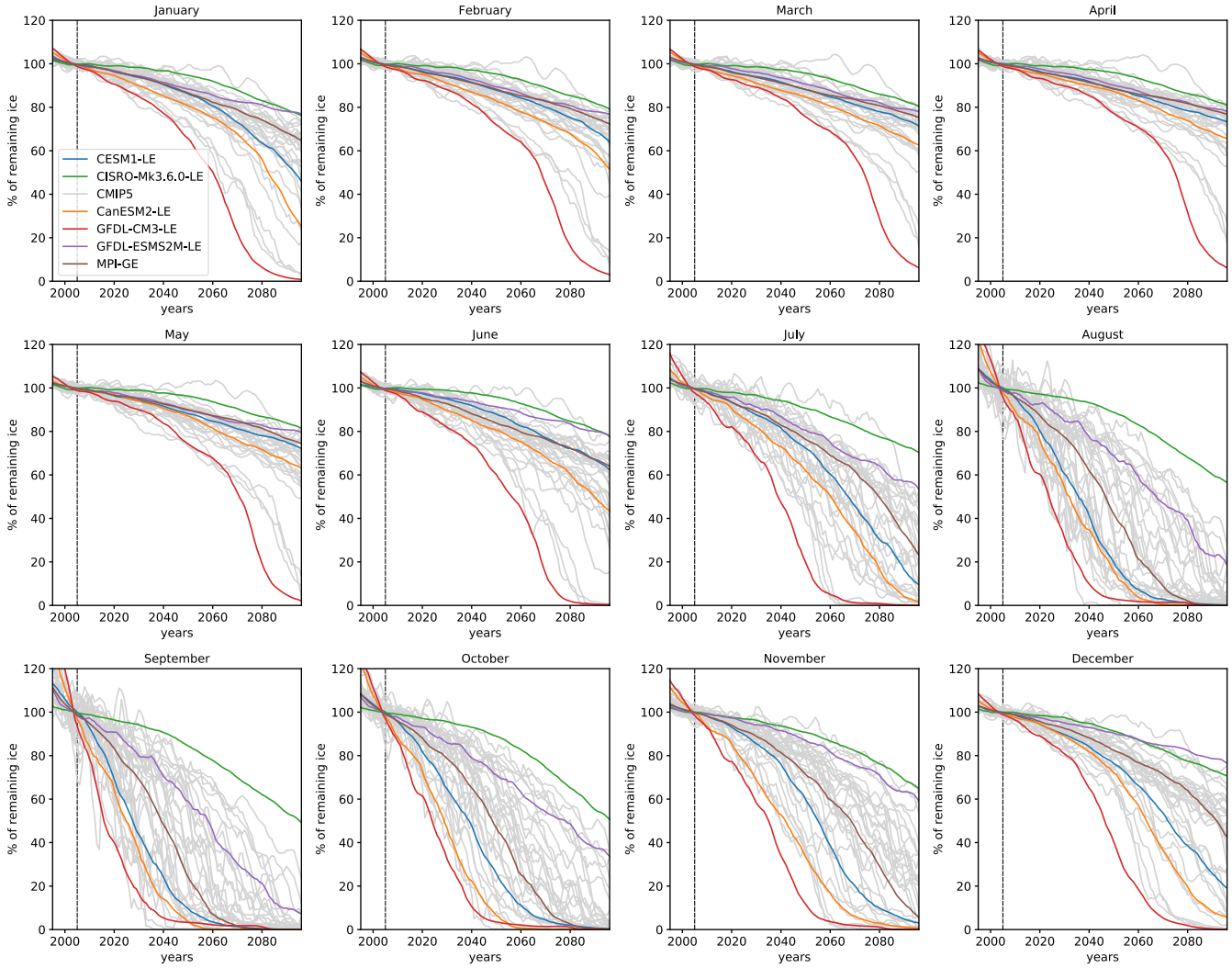

Figure 2: Percentage of remaining sea ice for each single-model initial condition large ensemble (SMILE) and the available CMIP5 output relative to 1995-2014 under historical and RCP85 forcing for each month. All panels are for five-year mean projections.

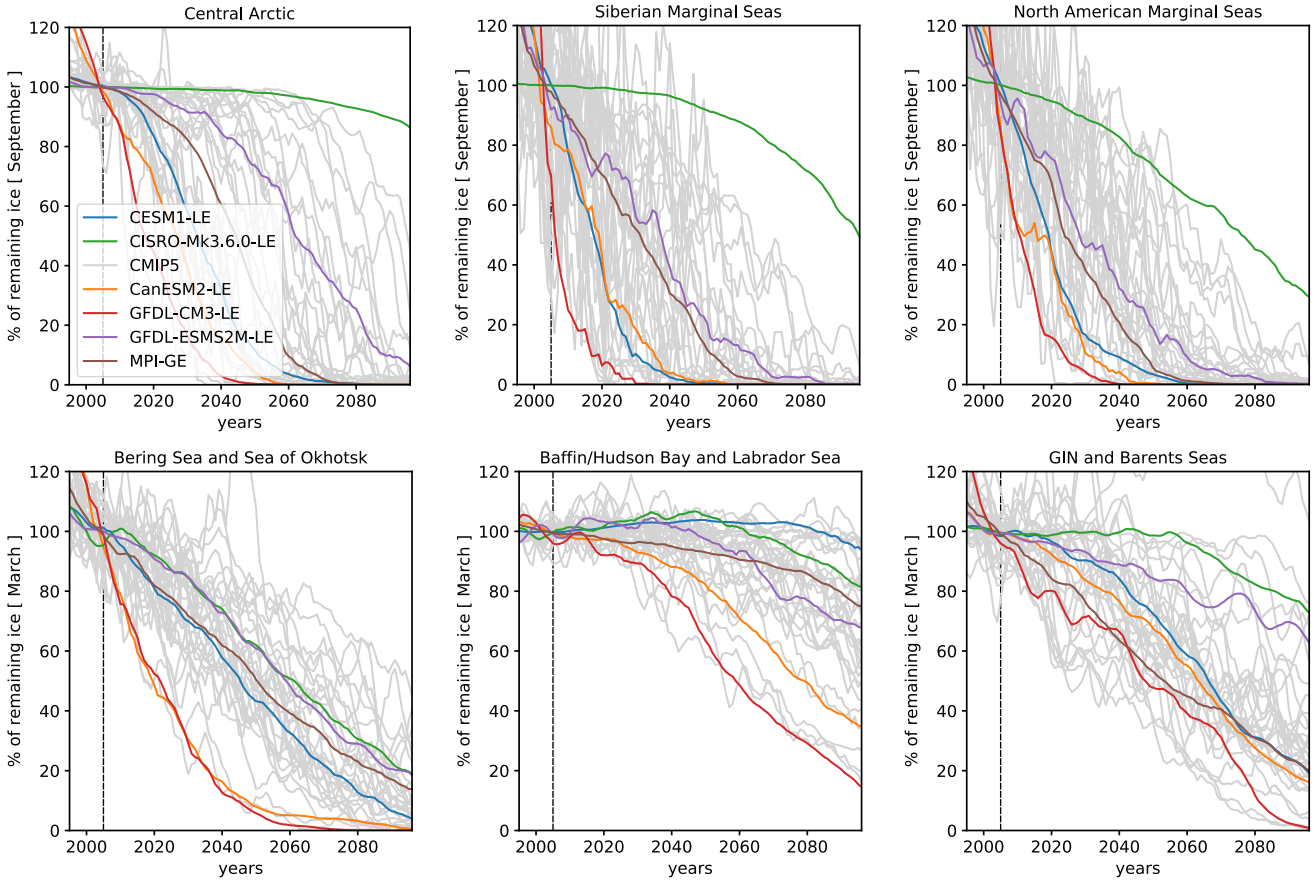

Figure 3: Percentage of remaining sea ice for each single-model initial condition large ensemble (SMILE) and the available CMIP5 output relative to 1995-2014 under historical and RCP85 forcing for each regional domain considered. All panels are for five-year mean projections. The top panels are for September sea ice and the bottom panels are for March sea ice.

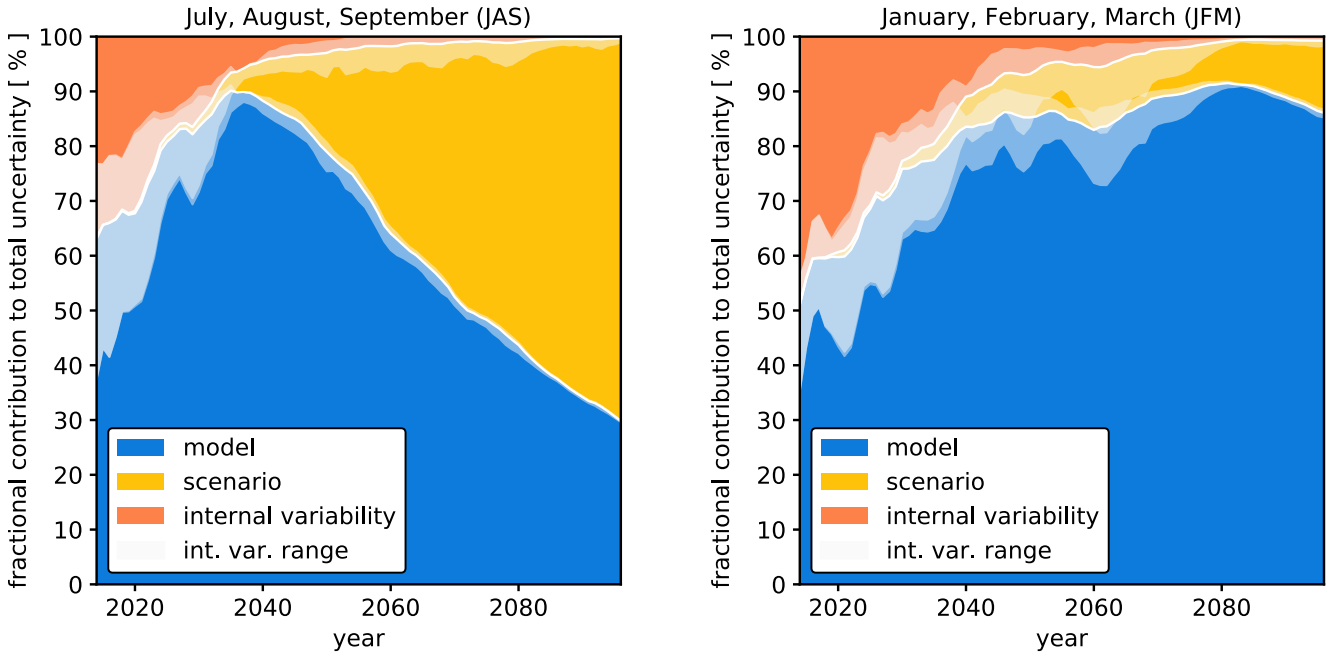

Figure 4: Fractional contribution of model structure, emissions scenario, and internal variability to total uncertainty for the percent of remaining Arctic sea ice cover in July, August and September (JAS) and January, February and March (JFM). The solid white lines denote the borders between each source of uncertainty, while the transparent white shading around those lines is the range of this estimate based on different estimates of internal variability in the MMLEA. Both fractional uncertainty panels are for five-year mean projections of percent of remaining Arctic sea-ice cover relative to 1995-2014.

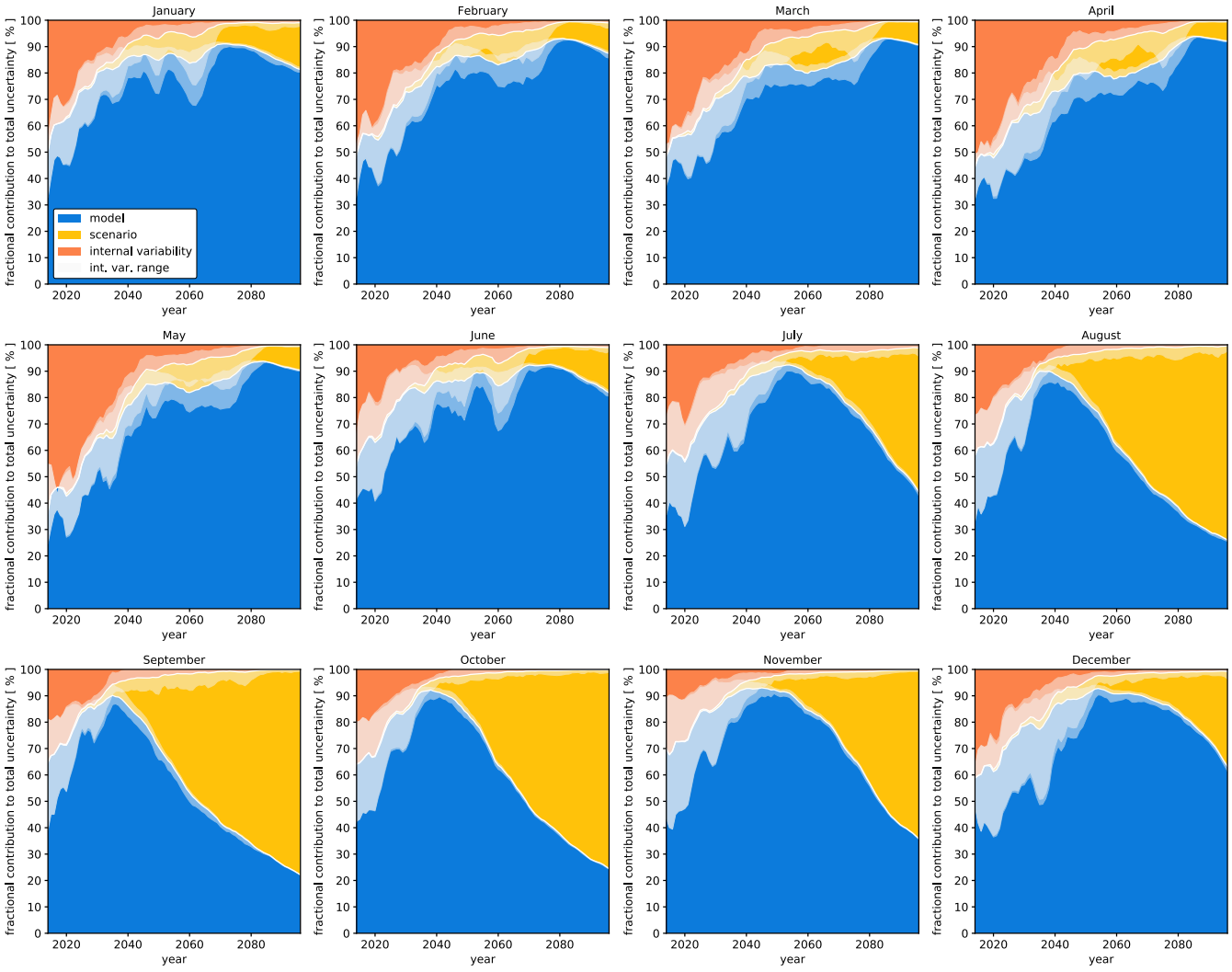

Figure 5: Fractional contribution of model structure, emissions scenario, and internal variability to total uncertainty for the percent of remaining Arctic sea ice cover in each month. The solid white lines denote the borders between each source of uncertainty, while the transparent white shading around those lines is the range of this estimate based on different estimates of internal variability in the MMLEA. Both fractional uncertainty panels are for five-year mean projections of percent of remaining Arctic sea-ice cover relative to 1995-2014.