

Figure S1. Simulated annual sea-ice cycle (total area with sea-ice cover exceeding 15 % of sea-ice concentration).

Minimum sea-ice concentration, contours at 15%

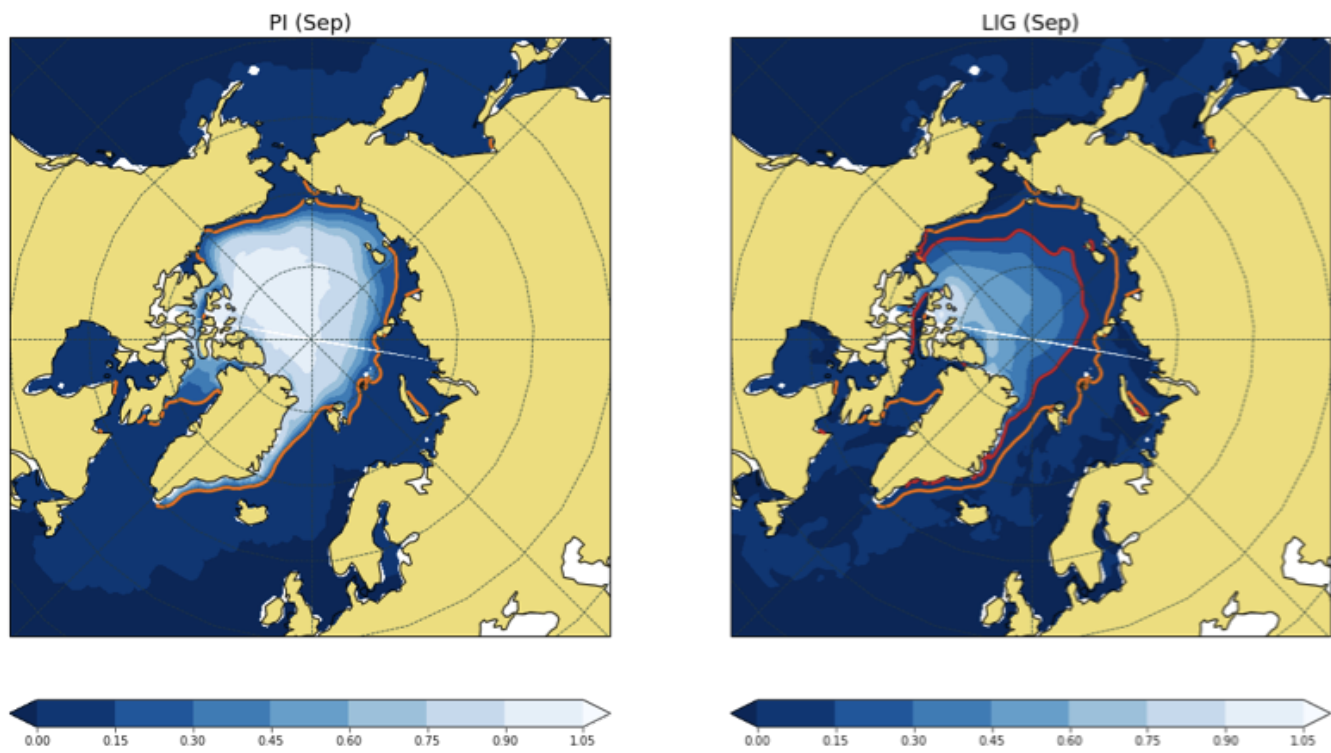


Figure S2. Arctic minimum (September, see Fig. S1) sea-ice concentration with contours at 15 %. LIG: red contour; PI: orange contour.

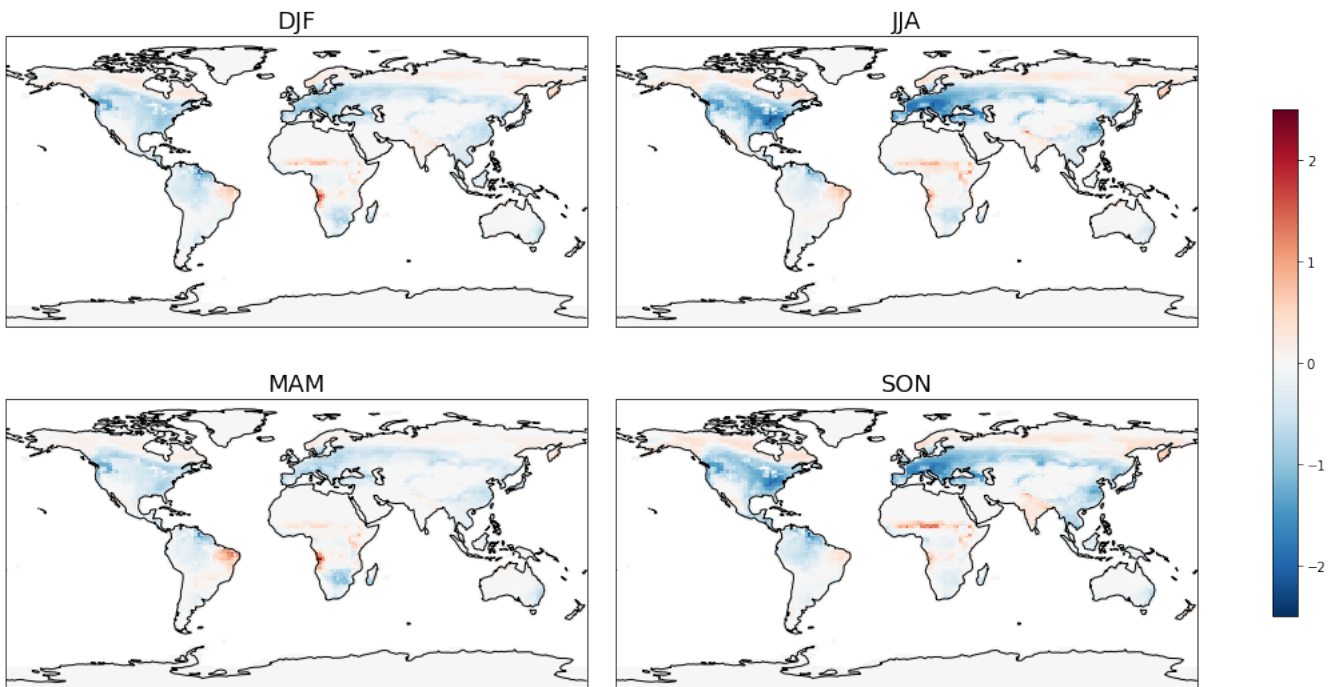


Figure S3. Simulated Leaf area index (LAI) seasonal anomaly (LIG minus PI).

Table S1. Boundaries of monsoon regions (Wang et al., 2011) and SH ocean regions, within which changes are calculated in Fig. 7.

Monsoon regions (terrestrial)	Boundaries
North American monsoon (NAM)	150° W – 50° W, 0 – 45° N
North African monsoon (NAF)	50° W – 60° E, 0 – 45° N
South Asian monsoon (SA)	60° E – 105° E, 0 – 45° N
East Asian monsoon (EA)	105° E – 180° E, 0 – 45° N
South American monsoon (SAM)	120° W – 30° W, 0 – 45° N
South African monsoon (SAF)	0 – 90° E, 0 – 45° S
Australian monsoon (AUS)	90° E – 160° E, 0 – 45° S
Ocean regions	
South Atlantic Ocean (SAO)	50° W – 20° E, 0 – 30° S
Indian Ocean (IND)	40° E – 120° E, 0 – 30° S
Western to Central Equatorial Pacific Ocean (WPO)	150° E – 140° W, 0 – 30° S