Global Biogeochemical Cycles

Supporting Information for

Are land-use change emissions in Southeast Asia decreasing or increasing?

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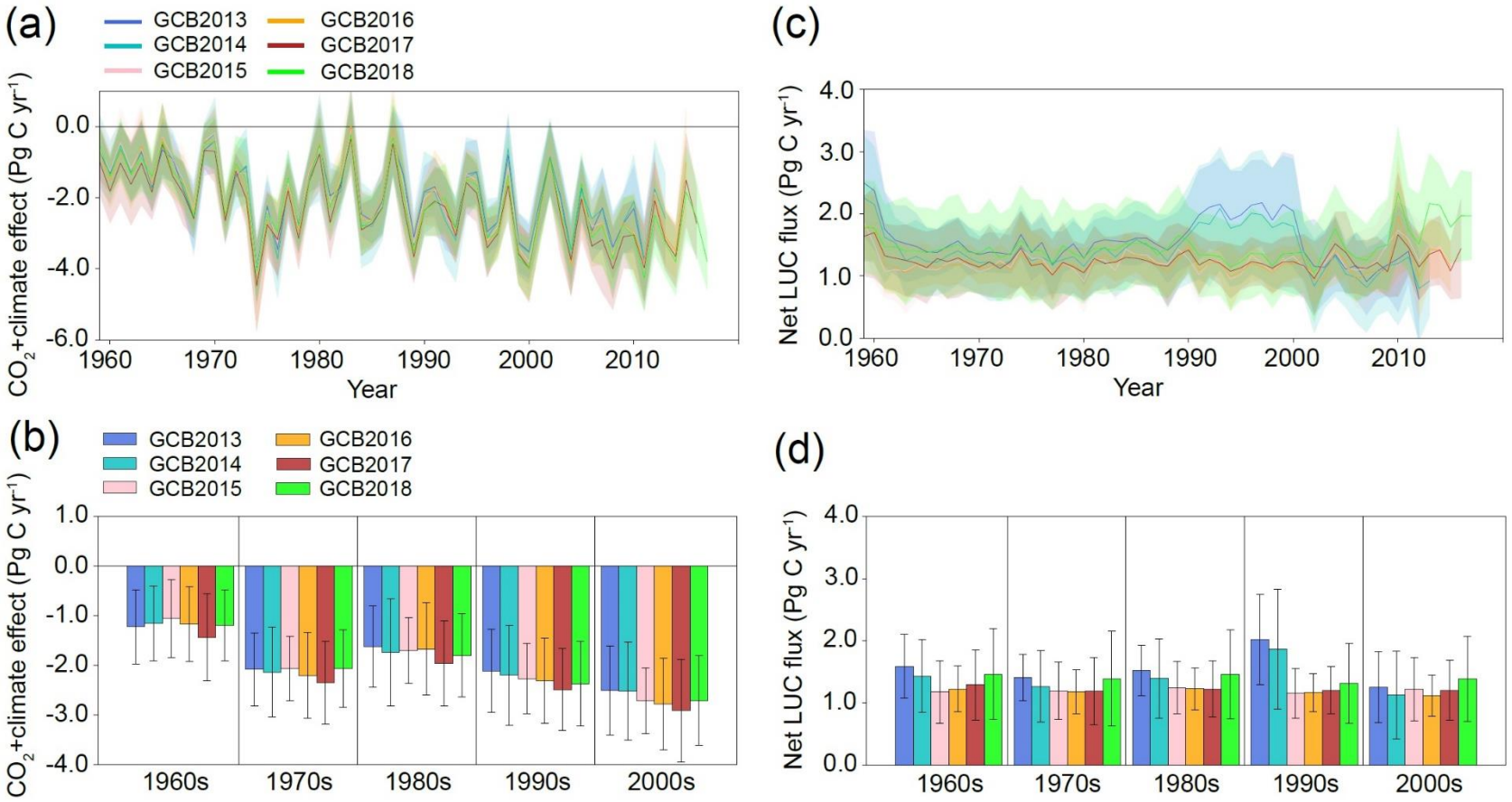

Figure S1. Interannual variability of global land CO_2 fluxes reported by the GCB papers. (a) Interannual and (b) decadal variability in the CO_2+climate effect on the net land CO_2 flux, and (c), (d) those of the net LUC flux from Global Carbon Budget (GCB) 2013−2018.

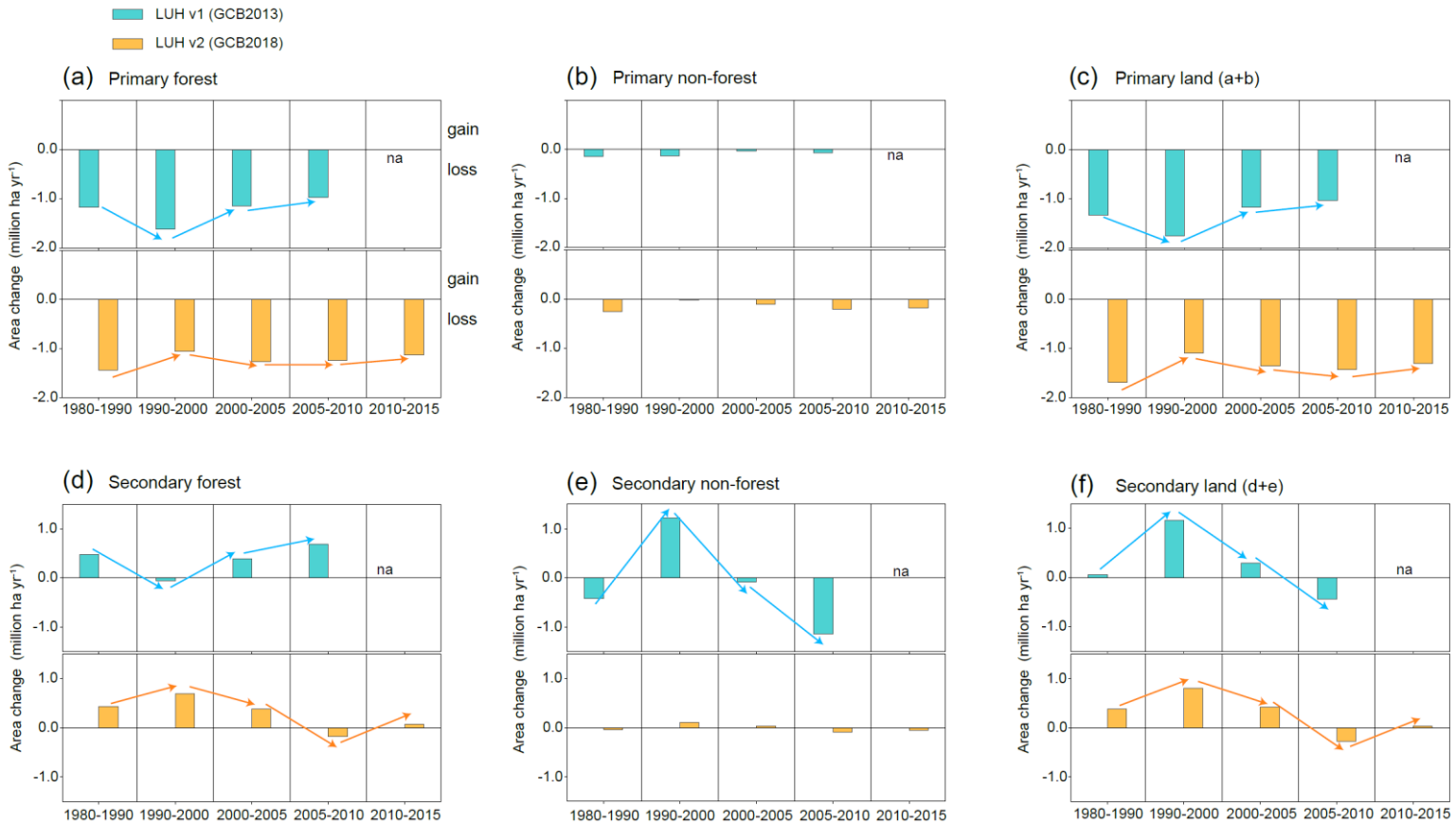

Figure S2. Decadal forest and non-forest area changes in Southeast Asia. Changes in forest and non-forest area estimates for the period 1980−2015 by LUH v1 and v2. Results are shown for (a) primary forest, (b) primary non-forest, (c) primary land (a sum of primary forest and primary non-forest), (d) secondary forest, (e) secondary non-forest, and (f) secondary land (a sum of secondary forest and secondary non-forest).

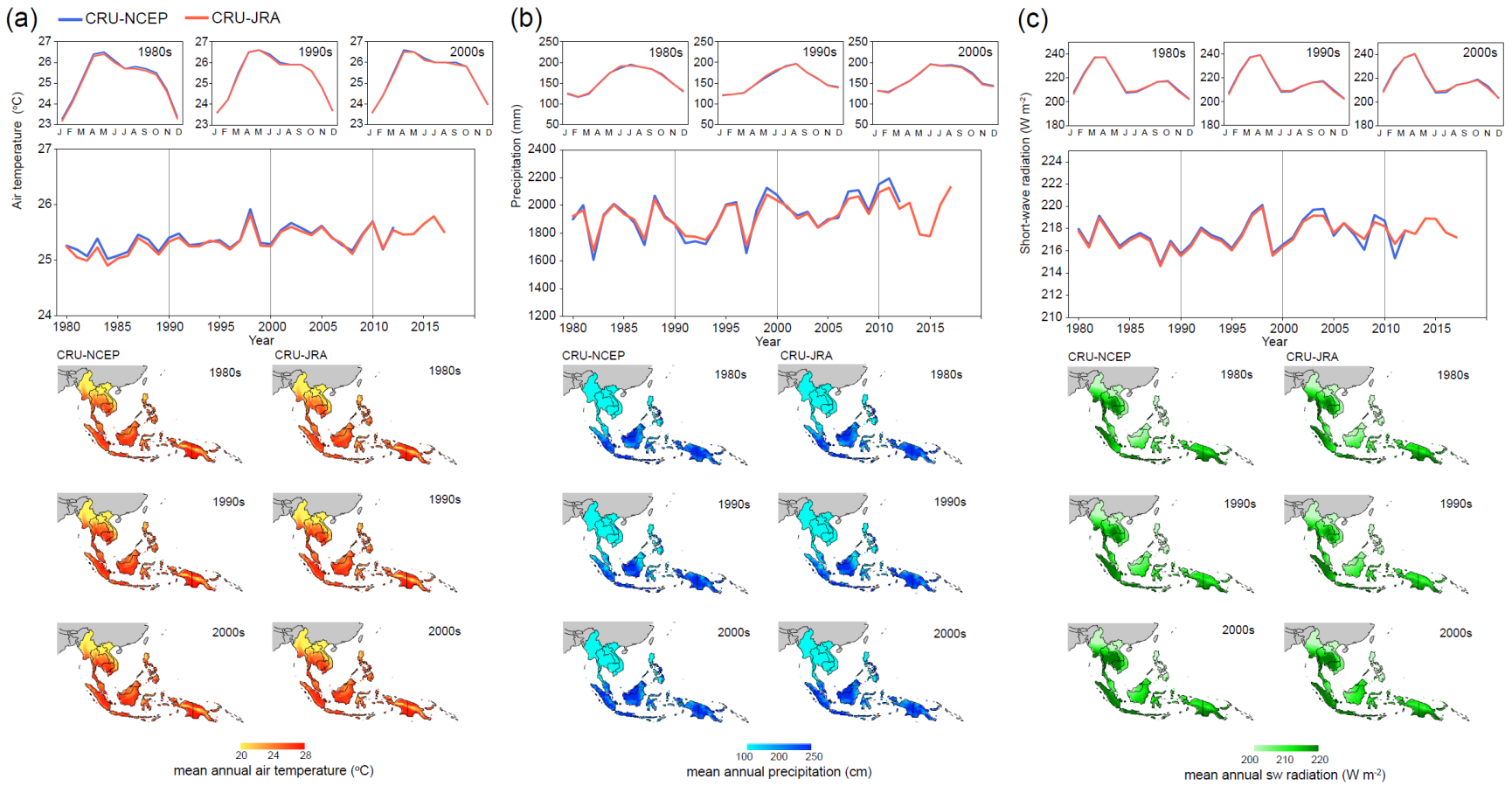

Figure S3. Temporal pattern of climate variables from CRU-NCEP and CRU-JRA. Decadal mean seasonality, interannual variability, and decadal mean spatial variability of (a) air temperature, (b) precipitation, and (c) short-wave radiation from CRU-NCEP and CRU-JRA.

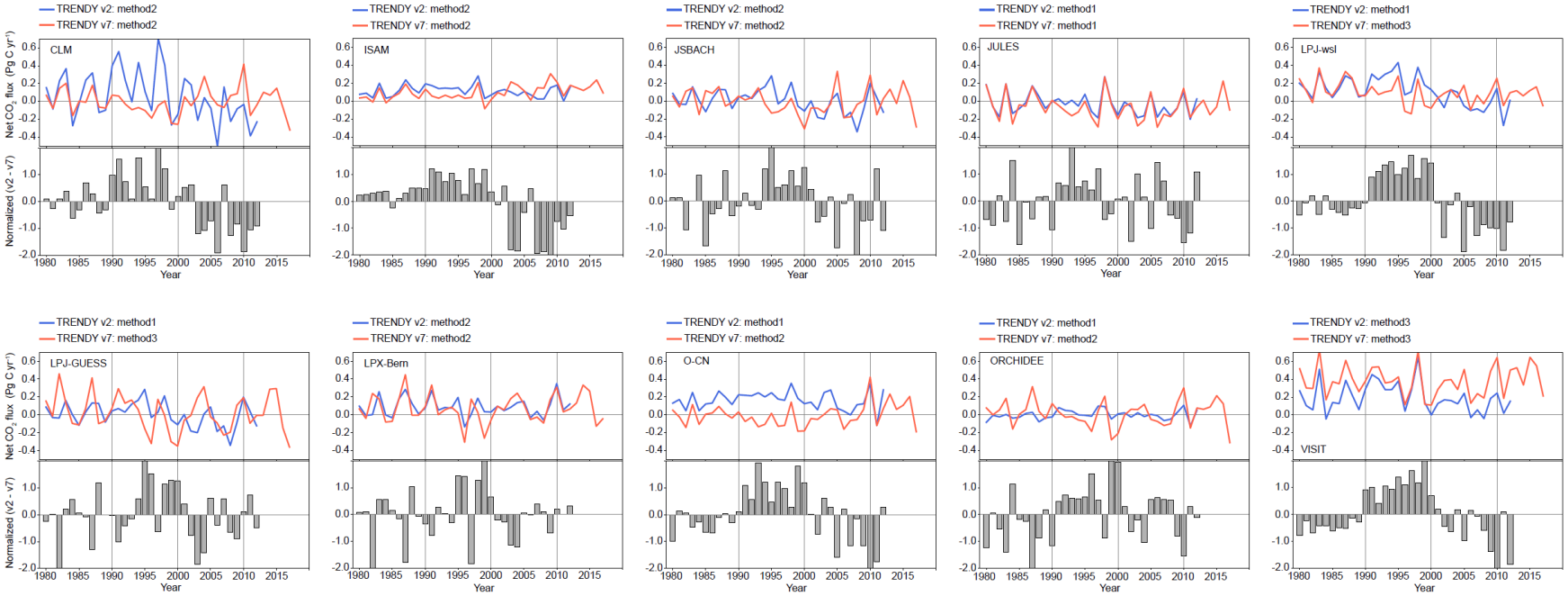

Figure S4. Temporal variability in the net CO_2 flux by individual TRENDY v2 and v7 models. Interannual variability in the net CO_2 flux estimated by the 10 DGVMs (CLM, ISAM, JSBACH, JULES, LPJ-wsl, LPJ-GUESS, LPX-Bern, O-CN, ORCHIDEE, and VISIT) are shown along with a normalized difference between TRENDY v2 and v7.

Table S1. Forcing data used for TRENDY v2 and v7 simulations.

Forcing	TRENDY v2	TRENDY v7
Atmospheric CO_2	Global mean annual CO_2 mixing ratio based on ice core measurements and stationary observations from NOAA	Global mean annual CO_2 mixing ratio based on ice core measurements and stationary observations from NOAA
Climate	Gridded daily and monthly data from CRU-NCEP	Gridded daily and monthly data from CRU-JRA55
Land-use and land-cover change	Gridded annual land-use and land-cover data from HYDE v3.1 or LUH v1	Gridded annual land-use and land-cover data from HYDE v 3.2 or LUH v2