

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15

**Summer and winter precipitation in East Asia
scale with global warming at different rates**

Wengui Liang and Minghua Zhang*
School of Marine and Atmospheric Sciences
Stony Brook University
Stony Brook, NY 11794

Supplemental Information

16

17

Supplemental Information18 **Supplemental Table 1:** 18 CMIP6 models.

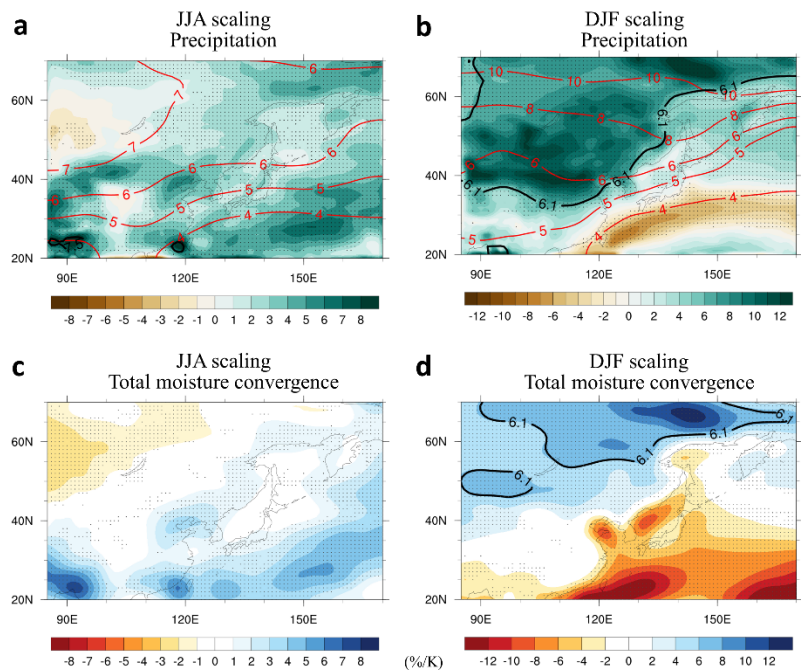
Model name	Country	Horizontal and vertical resolution
ACCESS-ESM-1-5	AUSTRALIA	1.3°x1.9°, L38
BCC-CSM2-MR	CHINA	1.1°x1.1°, L46
CAN-ESM5	CANADA	2.8°x2.8°, L49
CESM2	USA	0.9°x1.3°, L32
CNRM-ESM2-1	FRANCE	1.0°x1.0°, L91
EC-Earth3-Veg	SWEDEN	0.7°x0.7°, L91
FGOALS-g3	CHINA	2.3°x2.0°, L26
GFDL-ESM4	USA	1.0°x1.0°, L49
HadGEM3-GC31-LL	UK	1.3°x1.9°, L85
INM-CM5-0	RUSSIA	1.5°x2.0°, L73
IPSL-CM6A-LR	FRANCE	1.3°x1.9°, L79
MIROC6	JAPAN	1.4°x1.4°, L81
MPI-ESM-1.2	GERMAN	0.9°x0.9°, L95
MRI-ESM2-0	JAPAN	1.1°x1.1°, L80
NESM3	CHINA	1.9°x1.9°, L47
NorESM2-LM	NORWAY	1.9°x2.5°, L32
KACE	KOREA	1.3°x1.9°, L85
UKESM1-0-LL	UK	1.3°x1.9°, L85

19

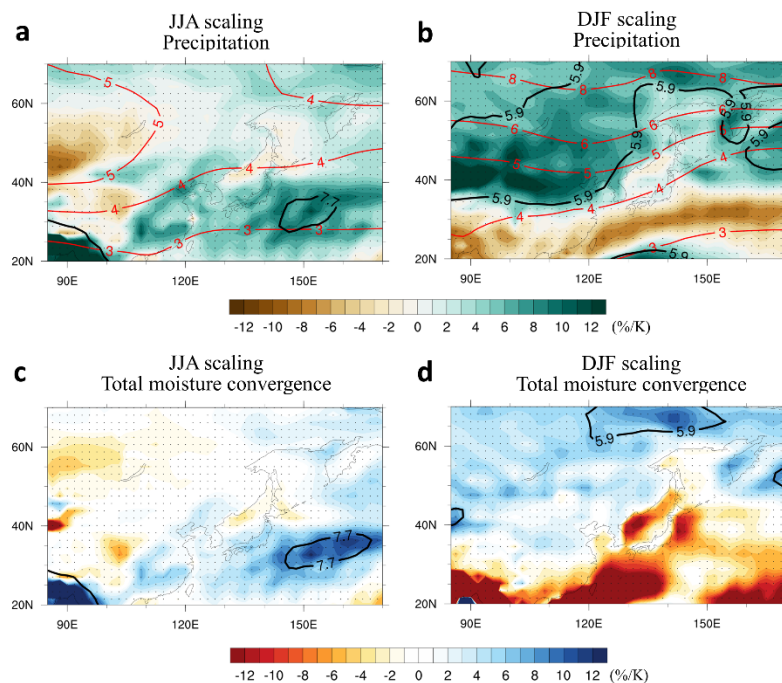
20

Supplemental Figures

Fig. S1: Same as Fig. 1, but for CMIP6 simulations.



29 **Fig. S2:** Same as Fig. 1, but for MPI-GE.



30
 31 Stippling represents statistical significance at 5% level in student-t test with respect to 100 ensemble
 32 variances.

33

34

35

36

37

38

39

40

41

42

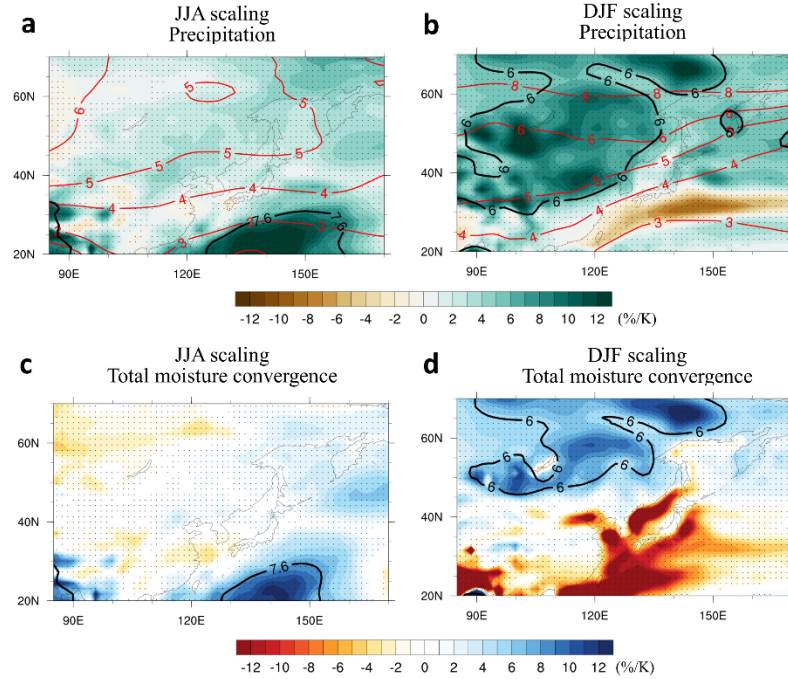
43

44

45

46

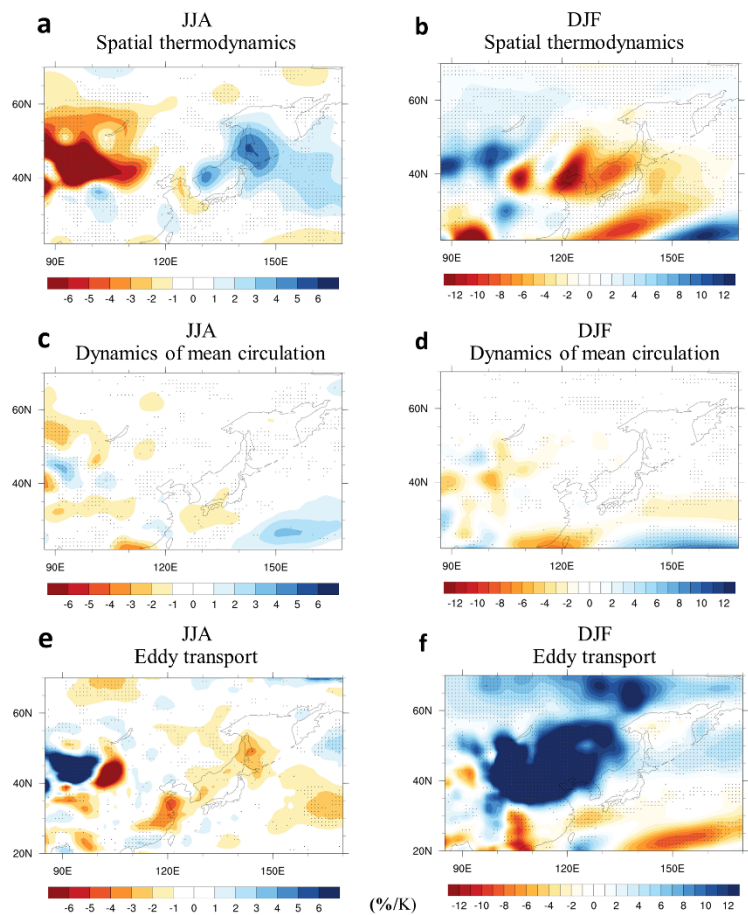
Fig. S3: Same as Fig. 1, but for MIROC6-LES.



Stippling represents statistical significance at 5% level in student-t test with respect to 50 ensemble variances.

64

65 **Fig. S4:** Same as Fig. 2, but for CMIP6 simulations.



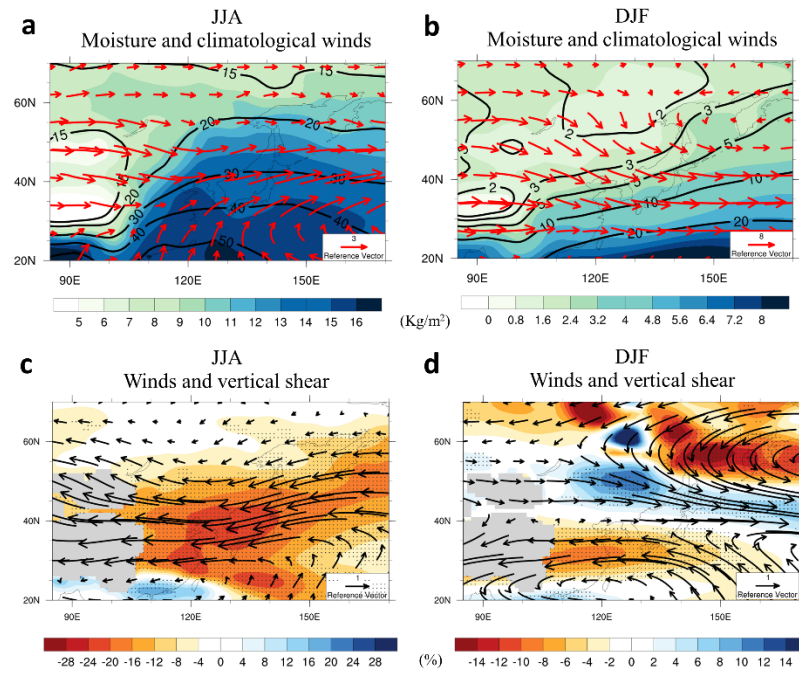
66

67 Stippling represents at least 80% of the models agree with the change sign.

68

69

Fig. S5: Same as Fig. 3 a-d, but for CMIP6 simulations.



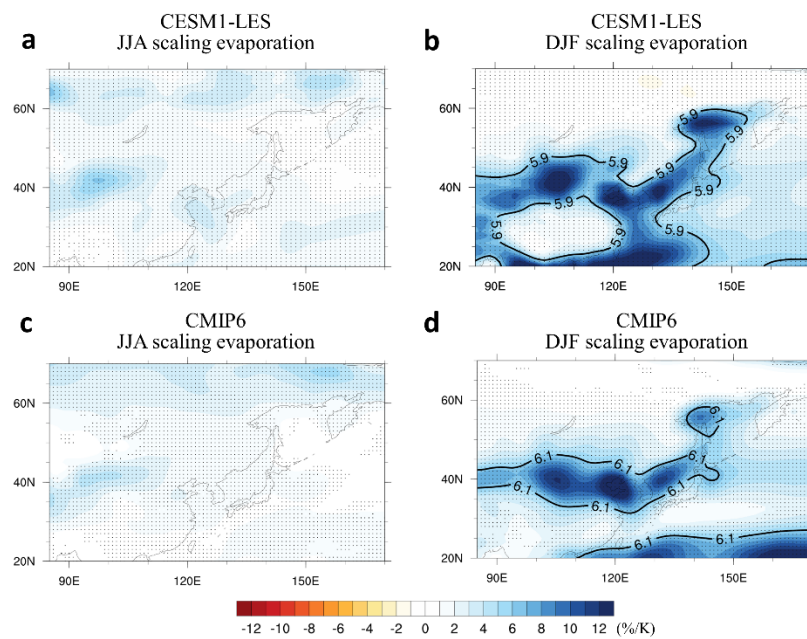
Other panels in Fig. 3 are not calculated because the necessary 6-hourly model outputs are not available. Stippling represents at least 80% of the models agree with the change sign.

78

79

80 **Fig. S6:** Scaling of surface evaporation from CESM1-LES

81



82

83 **a** for JJA and **b** for DJF (unit in $\%/K$). **c** and **d** are the same except from CMIP6 simulations.