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Anthropogenic Influence on 2022 June
Extreme Rainfall over the Pearl River Basin
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Support Information for
Anthropogenic influence on 2022 early June extreme rainfall over the Pearl
River Basin

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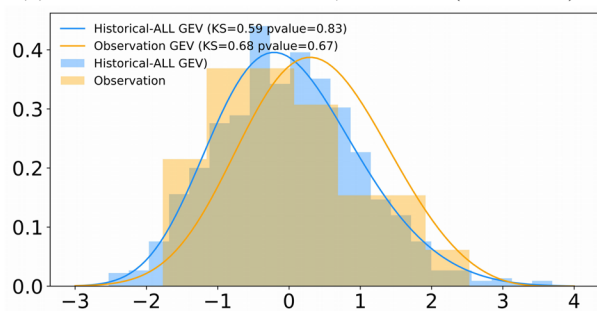
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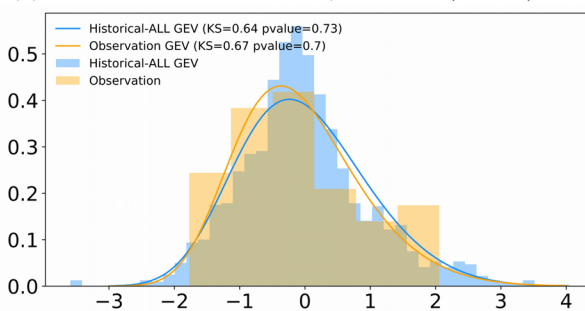
Table S1. List of 40 ensemble members from 11 CMIP6 models used in this study

Models	Resolution(lat×lon)	No. of members
ACCESS-CM2	1.25×1.875	3
ACCESS-ESM1-5	1.25×1.875	2
BCC-CSM2-MR	1.125×1.121489	3
CNRM-CM6-1	1.40076×1.40625	2
CanESM5	2.7906×2.815	10
GFDL-ESM4	1×1.25	1
HadGEM3-GC31-LL	1.25×1.875	5
IPSL-CM6A-LR	1.2676048×2.5	9
MIROC6	1.4007664×1.40625	1
MRI-ESM2-0	1.12149×1.125	1
NorESM2-LM	1.89473684×2.5	3

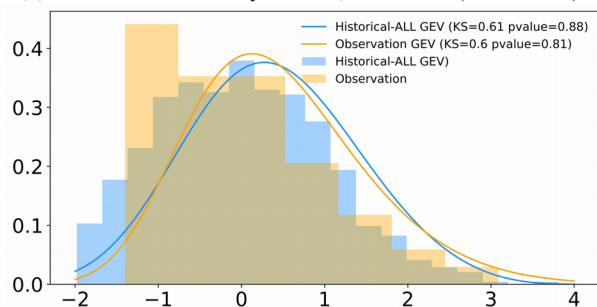
(a) PDF of GEV MMPA in June, 1961-2005 (HadGEM3)



(b) PDF of GEV MMPA in June, 1961-2005 (CMIP6)



(c) PDF of GEV Rx5day in June, 1961-2005 (HadGEM3)



(d) PDF of GEV Rx5day in June, 1961-2005 (CMIP6)

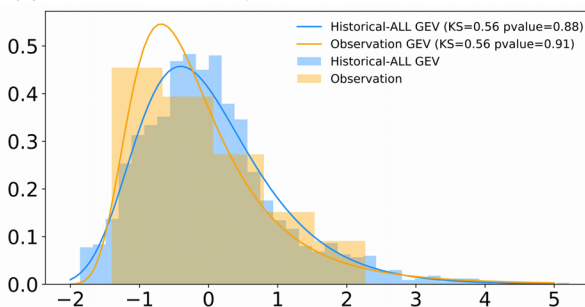


Fig. S1. K-S test with a significant level of 0.05. (a): MMPA from HadGEM3; (b): MMPA from CMIP6; (c)Rx5day from HadGEM3; (d)Rx5day from CMIP6.

Table S2. Attribution results for June MMPA & Rx5day events

Models	Event	RR _{ALL} (90%CI)	RR _{GHG} (90%CI)	RR _{AER} (90%CI)	P _{ALL} (90%CI)	P _{NAT} (90%CI)	P _{GHG} (90%CI)	P _{AER} (90%CI)
HadGEM3	Month	0.68 (0.53-0.84)	-	-	0.088 (0.071-0.103)	0.130 (0.110-0.147)	-	-
	Rx5day	1.80 (0.87-3.9)	-	-	0.096 (0.05-0.13)	0.053 (0.03-0.08)	-	-
CMIP6	Month	0.85 (0.66-1.08)	1.61 (1.31-1.96)	0.28 (0.19-0.38)	0.082 (0.068-0.097)	0.097 (0.081-0.113)	0.156 (0.136-0.177)	0.027 (0.019-0.035)
	Rx5day	1.34 (0.92-2.03)	2.50 (1.84-3.51)	0.26 (0.14-0.46)	0.035 (0.026-0.043)	0.026 (0.018-0.034)	0.065 (0.055-0.076)	0.007 (0.004-0.012)

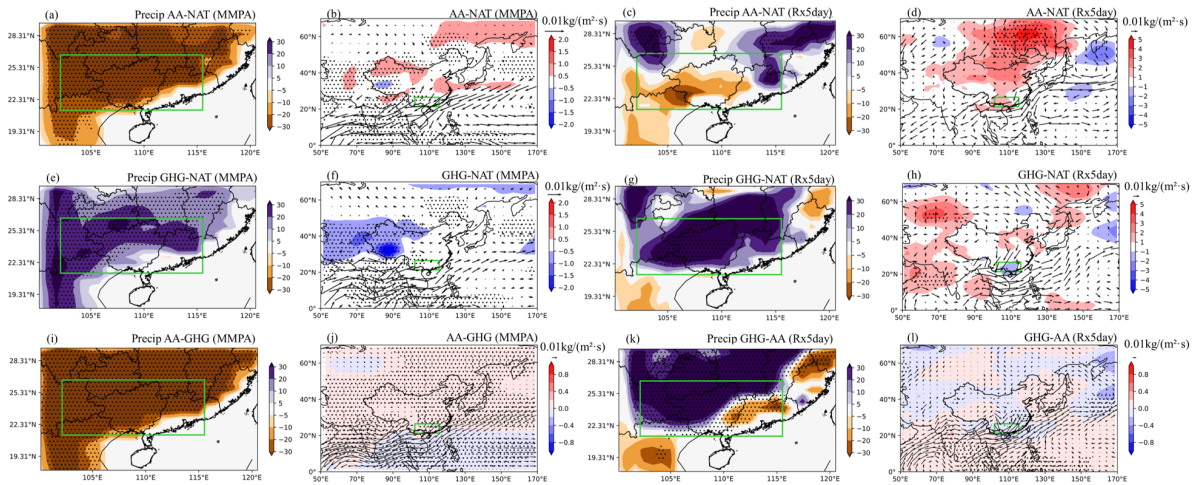


Fig. S2. The difference of MMPA (a, b) and Rx5day (c, d) precipitation (shading, unit: mm) (a, c) and sea level pressure (shading, unit: hPa) and 850hPa water vapour flux (arrow, unit: kg/(m²·s)) (b, d) between AER and NAT experiments. (e, f) as (a, b) and (g, h) as (c, d) but for the difference between GHG and NAT experiments. (i, k) as (a, c) and (j, l) as (b, d) but for the difference between AER and GHG. Dots indicate the 10% significance level for the shaded fields.