

Supplement of

Global Warming Impacts on Severe Drought Characteristics in Asia Monsoon Region

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Table S1

Table S1. The climate zone classification method of Köppen using temperature and precipitation and the ratio of area corresponding to each climate zone over Asia monsoon region. ($T_{min(max)}$): monthly averaged minimum (maximum) temperature, P_{min} : monthly averaged minimum precipitation, PANN: annual averaged precipitation, $P_{smin(smax)}$: minimum (maximum) precipitation in the summer season, $P_{wmin(wmax)}$: minimum (maximum) precipitation in the winter season, and P_{th} : dryness threshold calculated as a linear function of regional temperature).

Type	Description	Criterion	Ratio of Area (%)
A	Tropical climates	$T_{min} \geq +18 \text{ }^\circ\text{C}$	17.2
Af	Rainforest	$P_{min} \geq 60 \text{ mm}$	5.8
Am	Monsoon	Not(Af) & $P_{min} \geq 100\text{-PANN}/25$	1.7
Aw	Savannah	Not(Af) & $P_{min} < 100\text{-PANN}/25$	9.7
B	Arid climates	$\text{PANN} < 10P_{th}$	22.1
BS	Steppe climate	$\text{PANN} > 5P_{th}$	4.6
BW	Desert climate	$\text{PANN} \leq 5P_{th}$	17.5
C	Warm temperate climates	$-3 \text{ }^\circ\text{C} < T_{min} < +18 \text{ }^\circ\text{C}$	19.4
Cs	Warm temperate climate with dry summer	$P_{smin} < P_{wmin}$ & $P_{wmax} > 3P_{smin}$ & $P_{smin} < 40 \text{ mm}$	2.1
Cw	Warm temperate climate with dry winter	$P_{wmin} < P_{smin}$ & $P_{smax} > 10P_{wmin}$	10.5
Cf	Warm temperate climate without dry season	Neither Cs nor Cw	6.7
D	Cold climates	$T_{min} \leq -3 \text{ }^\circ\text{C}$	36.3
Ds	Cold climate with dry summer	$P_{smin} < P_{wmin}$ & $P_{wmax} > 3P_{smin}$ & $P_{smin} < 40 \text{ mm}$	1.8
Dw	Cold climate with dry winter	$P_{wmin} < P_{smin}$ & $P_{smax} > 10P_{wmin}$	19.7
Df	Cold climate without dry season	Neither Ds nor Dw	14.8
E	Polar climates	$T_{max} < +10 \text{ }^\circ\text{C}$	5.1
ET	Tundra climate	$0 \text{ }^\circ\text{C} \leq T_{max} < +10 \text{ }^\circ\text{C}$	5.1
EF	Frost climate	$T_{max} < 0 \text{ }^\circ\text{C}$	-

