

Table 1: Overview of the model considered for this study.

Contents	Description
Model Dynamics	Hydrostatic
Model domain	30°E–120°E ; 15°S–45°N
Horizontal resolution	30 km
Vertical level	23 (terrain following sigma level)
Map projection	Lambert Conformal
Central latitude and longitude	16°N, 75°E
Lateral boundary condition scheme	Relaxation, Exponential
Model integration time step	30 seconds
Cumulus convection scheme	Grell (Grell 1993) over ocean and MIT (Emanuel 1991) over land
Land surface scheme	Community Land Model (CLM4.5; Oleson et al. 2013)
Cumulus closure scheme	Arakawa and Schubert (1974)
PBL Scheme	Holtslag scheme (1990)
Ocean flux scheme	Zeng's scheme (Zeng et al. 1998)
Radiative transfer scheme	CCM3 (Kiehl et al. 1996; Giorgi et al. 2011)
Explicit moisture scheme	SUBEX scheme (Pal et al., 2000)