

Parameter	Options
Land surface model	Noah (Chen and Dudhia, 2001) Rapid Update Cycle (RUC; Smirnova, 2000) Five-layer thermal diffusion (Dudhia, 1996)
Planetary boundary layer scheme	Yonsei University (YSU; Hong et al., 2006)  Mellor–Yamada–Janjic (MYJ; Janjic, 2002) Mellor–Yamada–Nakanishi–Niino Level 2.5 (MYNN2.5; Nakanishi and Niino, 2004)
Surface layer	MM5 similarity/YSU PBL scheme Eta similarity/MYJ PBL scheme MYNN surface layer/MYNN PBL scheme
Cumulus	Kain–Fritsch (KF; Kain, 2004) Grell-3D (G3D; Grell and Devenyi, 2002) No cumulus parameterization
Microphysics	WSM 5-class (Hong et al., 2004) Thompson et al. (2004)
Shortwave/longwave radiation physics	Dudhia/Rapid Radiative Transfer Model (RRTM)
Initial and boundary conditions	North America Regional Reanalysis (NARR) Global Final Analysis (FNL)