

## 5.1 Noah-MP: Model updates and verification

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Several new capabilities were introduced to the Noah-MP model in the WRFv3.7 release including an option to use WRF microphysics partitioning, addition of precipitation advected heat, dynamic vegetation fixes and allowing for patchy snow in turbulent calculations. These changes have greatly improved snow simulations in the western United States and improved vegetation feedback in summer regional climate simulations.