



## **Quantitative Assessment of the CCMC's Experimental Real-time SWMF-Geospace Results**

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Experimental real-time simulations of the Space Weather Modeling Framework (SWMF) are conducted at the Community Coordinated Modeling Center (CCMC), with results available there (<http://ccmc.gsfc.nasa.gov/realtime.php>), through the CCMC Integrated Space Weather Analysis (iSWA) site (<http://iswa.ccmc.gsfc.nasa.gov/IswaSystemWebApp/>), and the Michigan SWMF site (<http://csem.engin.umich.edu/realtime>). Presently, two configurations of the SWMF are running in real time at CCMC, both focusing on the geospace modules, using the BATS-R-US magnetohydrodynamic model, the Ridley Ionosphere Model, and with and without the Rice Convection Model for inner magnetospheric drift physics. While both have been running for several years, nearly continuous results are available since July 2015. Dst from the model output is compared against the Kyoto real-time Dst, in particular the daily minimum value of Dst to quantify the ability of the model to capture storms. Contingency tables are presented, showing that the run with the inner magnetosphere model is much better at reproducing storm-time values. For disturbances with a minimum Dst lower than -50 nT, this version yields a probability of event detection of 0.86 and a Heidke Skill Score of 0.60. In the other version of the SWMF, without the inner magnetospheric module included, the modeled Dst never dropped below -50 nT during the examined epoch.