

CCMC: Community Coordinated Space Weather Modeling Center

The Community Coordinated Modeling Center (CCMC) was established in ~2000 to aid in the development of models for specifying and forecasting conditions in the space environment. CCMC fills a long-standing gap between the space weather research community and the operational entities. The goal of CCMC is to facilitate the development, validation and test of the largest and most sophisticated space weather models by the broad community. The CCMC performs model runs requested by space scientists and students who will benefit from the insights such models provide in understanding the space weather system and how it responds to solar storms and other natural processes in the space environment. CCMC is also responsible for developing and utilizing advanced community visualization routines for more accurate interpretation of the model results. CCMC will explore and exercise various community tools for assimilating data into space weather models. Validation against standardized metrics is a key function of CCMC, which maintain fair and unbiased records of model performance over a long period of time. The future of end-to-end space weather modeling depends on the ability of efficiently couple successful models in the spatial domains extending from the Sun to Earth. CCMC is working directly with model developers in exploring methodologies for connecting models in a flexible way, eventually leading to a patch-panel approach to space weather simulations.