

Geoscience Current and Future Space Weather Plans

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Space weather is the state of the plasma, radiation, and magnetic environment in space driven by changes originating at the Sun and carried through interplanetary space by the solar wind. Space weather can cause large variations in Earth's upper atmosphere and ionosphere, and in Earth's radiation belts, and can prevent the reliable operation of technologies in space as well as on the ground. *With the launch of the Van Allen Probes in August 2012, Geoscience gained another important mission to help predict space weather impacts. The Van Allen Probes have a near real time space weather broadcast picked up by ground stations around the world. Other upcoming NASA missions will add to the observations: the Magnetospheric Multiscale Mission (MMS) launching in 2015 and the Ionospheric Connection Explorer (ICON) and Global-scale Observations of the Limb and Disk (GOLD) mission, launching in 2017/18.* Today the Community Coordinated Modeling Center (CCMC) supports over 20 space weather models. These are the latest, most robust models enabling space weather prediction, and are used by NOAA's Space Weather Prediction Center (SWPC), the U.S. official source for space weather forecasts. This paper will highlight the observations and models currently in use, and discuss possibilities for the future.