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A Space Weather Forecasting Contest

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On 28 September 2009, a space weather forecasting contest will be initiated at http://swxcontest.gmu.edu/. This contest, sponsored by the Space Weather Laboratory at George Mason University, in Fairfax, Va., is intended to bring space weather to a broader community by allowing interested students and researchers to get hands-on experience with space weather prediction. High-school students, undergraduates, alumni, graduate students, and faculty/staff at any university or research institution may participate in this informal competition.

The contest will run for 20 weeks, and certificates will be awarded for the best individual forecast and team forecast at the end of each month. A trophy will be awarded to the best team and individual forecasters at the end of the contest, on 1 May 2010. The contest Web page includes links to a mailing list that will be used for announcements, discussion, and debate. Community members can provide suggestions about any aspect of the contest; these suggestions will be put into consideration for the next contest.

The initial contest will challenge participants to predict two space weather parameters: the planetary *K* index (*Kp*), a measure of geomagnetic activity based on midlatitude magnetometer measurements, and the near-Earth solar wind velocity (*Vx*). Predictions of these parameters are usually made using data from solar observation instruments, such as magnetograms and coronagraphs; recent in situ solar wind measurements of the near-Earth plasma environment; and model predictions.

Contest participants will predict the maximum and minimum value of *Kp* and *Vx* parameters in a 24-hour period with a lead time of 0–8 hours. For example, on Monday, 28 September, between 0400 and 2359 UTC, forecasters will make a prediction for the maximum and minimum values of *Kp* and *Vx* between 0000 and 2359 UTC on 29 September. Forecasters will make predictions Monday through Friday and have the option of making predictions for the entire week on Monday and adjusting their forecasts as needed prior to the daily submission deadline. Scoring will be based on comparing submitted forecasts with maximum and minimum measured values taken from measurements stored by the NOAA/National Weather Service Space Weather Prediction Center. Recent *Kp* and *Vx* values are located at ftp://ftp.sec.noaa.gov/pub/lists/geomag/AK.txt and ftp://ftp.sec.noaa.gov/pub/lists/ace/ace_swepam_1m.txt, respectively.

With enough interest and participation from the community, the Space Weather Forecasting Contest will continue on an annual basis.

The Space Weather Forecasting Contest was inspired by a national contest in terrestrial weather forecasting (http://www.wxchallenge.com/), in which student and faculty forecasters predict the maximum and minimum precipitation and temperature for a set of U.S. cities. That contest has grown from approximately 200 participants in 2005, the first year the contest was held, to more than 1000 participants from more than 50 institutions.

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