

Meeting Brings Together Industry and Government Space Weather Interests

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With the Sun finally becoming more active after a long period of quiet and with concerns growing about the integrity of U.S. and international electric power grids and infrastructure, the Fourth NOAA Space Weather Prediction Center (SWPC)/Commercial Space Weather Interest Group (CSWIG) Summit was convened on 29 April 2010 in Boulder, Colo., in conjunction with the 2010 Space Weather Workshop (SWW). The summit brought together industry and government space weather experts. Devrie Intriligator (Carmel Research Center, Inc.) and W. Kent Tobiska (Space Environment Technologies) cochaired the meeting.

During the summit, Thomas Bogdan, director of NOAA's SWPC, summarized the current status of his organization and its fiscal outlook. SWPC continues to develop under the National Weather Service with increasing budgets, hiring, and training of forecasters. In addition, President Obama's fiscal year 2011 proposed budget includes \$9.5 million for NOAA's Deep Space Climate Observatory (DSCOVR) spacecraft. This mission, jointly funded by NOAA, the Department of Defense, and NASA, will be launched to an orbit at Lagrange point L1 to provide real-time solar wind and magnetic field parameters upstream of the Earth's bow shock. The current budget plans for a December 2013 launch for DSCOVR.

Participants discussed the importance of an earlier (e.g., early 2012 or sooner) DSCOVR launch because the very successful scientific and space weather monitor Advanced Composition Explorer (ACE) spacecraft currently at L1 is at times unable to return real-time solar wind parameters during large solar storms such as the October–November 2003 and December 2006 events. ACE, launched in 1997, has provided extremely valuable data for both real-time operations and in-depth studies of solar wind, interplanetary coronal mass ejections, solar energetic particles, and cosmic rays. However, ACE is beyond its design lifetime and is a single-point failure, since there is no backup source of substitute real-time L1 data.

Bogdan further reported on SWPC's interactions with the Federal Emergency Management Agency (FEMA) and

FEMA administrator Craig Fugate, including a February 2010 workshop with their European Union counterparts entitled "Managing Critical Disasters in the Transatlantic Domain—The Case of a Geomagnetic Storm." Bogdan noted Fugate's recognition that space weather is among the potential threats known as high-impact, low-frequency (HILF) events, which occur rarely or with uncertain frequency but have the potential to cause severe damage.

Tobiska and Intriligator reported on their meeting with Michael Bonadonna (Office of the Federal Coordinator for Meteorology). Bonadonna anticipated that the new National Space Weather Program Strategic Plan would soon be available online for comment at <http://www.ofcm.gov/homepage/text/pubs.htm>.

Participants also discussed the need for continuity of long-term data sets of importance to space environment climatology. One problem mentioned was that the SWPC Web pages will no longer include data from the Thule neutron monitor, which measures the number of high-energy particles bombarding Earth from space at Thule, Greenland, because the National Science Foundation has discontinued its funding. Louis Lanzerotti (New Jersey Institute of Technology) suggested a National Research Council study on long-term data sets, including their types and optimal locations.

Last year, Admiral Conrad Lautenbacher (former NOAA administrator and now vice president for science programs at CSC) during his SWW presentation suggested the formation of a space weather association. Intriligator reported that Jérôme Lafeuille (chief, Space-based Observing Division, World Meteorological Organization (WMO)) and Bruce Sumner (executive secretary, Association of Hydro-Meteorological Equipment Industry (HMEI)) suggested that HMEI could be a model for such an association. HMEI is composed of meteorological instrument builders, service providers, and forecasters; has official consultative status with WMO; and is housed in the WMO headquarters in Geneva, Switzerland.

CSWIG voted unanimously to form a space weather association to help expand the space weather enterprise. The association could help government, academia, and the private sector by serving as a focal point for information, education and outreach, and lobbying. Robert Schunk (Utah State University) offered to initially host the organization and to develop and maintain a Web page. CSWIG approved Intriligator's suggestion that Schunk, Tobiska, and Geoffrey Crowley (Atmospheric and Space Technology Research Associates) be appointed as a troika to initially lead the association.

The summit participants also discussed the importance of continuing to grow the space weather efforts and visibility within AGU, the American Meteorological Society, the American Institute of Aeronautics and Astronautics, and other professional organizations. It is anticipated that the newly formed association would complement these other efforts.

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