

Industry and Government Space Weather Experts Meet

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Published 16 July 2011.

Citation: Intriligator, D. S. (2011), Industry and Government Space Weather Experts Meet, *Space Weather*, 9, S07006, doi:10.1029/2011SW000698.

The fifth annual NOAA Space Weather Prediction Center (SWPC)-Commercial Space Weather Interest Group (CSWIG) Summit was held on 28 April 2011 in Boulder, Colo., in association with the 2011 Space Weather Workshop. Interest was high, in the United States and internationally, in potential space weather impacts on many aspects of everyday life because of the increased vulnerability of technological systems and the possibility that a major space weather event may occur as the twenty-fourth solar cycle begins to progress toward solar maximum. Industry and government space weather experts participated in the summit. Devrie Intriligator (Carmel Research Center, Inc.) and W. Kent Tobiska (Space Environment Technologies (SET)) served as cochairs.

Tom Bogdan, Director of SWPC, summarized SWPC's current fiscal situation and future plans. SWPC has been successful in educating members of the executive branch and other government officials about space weather. President Obama's proposed fiscal year (FY) 2012 budget includes Department of Defense and NOAA funding for the Deep Space Climate Observatory (DSCOVR), the replacement for the Advanced Composition Explorer (ACE) spacecraft, which warns of approaching interplanetary disturbances from the Sun. It is crucial for Congress to appropriate this funding if DSCOVR is to be launched on schedule in 2014. The Constellation Observing System for Meteorology, Ionosphere, and Climate (COSMIC-2) mission is also in the proposed FY 2012 budget.

Starting in early fall 2011, SWPC is planning to have two forecasters on duty 24 hours a day, 7 days a week. SWPC's top operational priorities include an improved Wang-Sheeley-Arge (WSA) model of the Sun/solar wind interface and a Ground Induced Current regional model. A high priority is improved forecasting of the interplanetary magnetic field characteristics of a coronal mass ejection that hits Earth.

David Bouwer (SET) summarized SWPC's External Space Weather Data Store (E-SWDS) and other data/model sources. E-SWDS is the most reliable data source with the fewest changes/interruptions in service, format, and param-

eters. CSWIG looks forward to when E-SWDS also will include improved model outputs (e.g., ENLIL, WSA, etc.).

Intriligator summarized concerns on the quality and quantity of future data including those from ACE and National Polar-Orbiting Operational Environmental Satellite System (NPOESS) replacements, the Geostationary Operational Environmental Satellite (GOES), etc. Space weather research, operations, and forecasts are data limited, and long-term monitoring of solar, interplanetary, and near-Earth regions is crucial. NOAA is tasked with this monitoring. Stable funding of long-term spacecraft lines (e.g., GOES) is needed.

Michael Bonadonna (Office of the Federal Coordinator for Meteorology (OFCM)) updated the group on the National Space Weather Program (NSWP) and OFCM activities. One of the near-term priorities of OFCM is to improve its ability to work with the commercial sector. At present, there is no mechanism for the commercial sector to participate in the NSWP Council or other high-level NSWP activities. The Office of Science and Technology Policy has requested that NSWP assess U.S. space weather capabilities now and 10 years in the future.

Tobiska discussed CSWIG participation in software test beds and Small Business Innovative Research opportunities as ways of leveraging funding. He also discussed moving toward space weather common practices and a quality assurance program including standards as developed by the American Institute of Aeronautics and Astronautics (<http://spacewx.com>, see the "Standards" link under "Resources").

Geoff Crowley (Atmospheric and Space Technology Research Associates) reported on the American Commercial Space Weather Association (ACSWA), the space weather association that was unanimously formed last year at the SWPC-CSWIG Summit. The ACSWA executive committee (Crowley, Intriligator, Robert Schunk, and Tobiska) had earlier drafted the mission statement for ACSWA and established a Web site (<http://sw01.spaceweather.usu.edu/ACSWA/landing.html>), which was unveiled at the summit meeting. Bonadonna and Bogdan enthusiastically supported ACSWA. Gene Fisher

(NOAA) suggested that ACSWA could benefit from aligning with the American Meteorological Society.

There was a discussion on the relationship between CSWIG and ACSWA. Some commercial providers might not be able to join ACSWA if they have a conflict of interest with some programs ACSWA is supporting in its contacts with Congress and government agencies. It was decided that at this time both CSWIG and ACSWA are needed. Intriligator will chair CSWIG. Bogdan enthusiastically supports CSWIG, and at his suggestion the summit participants agreed that quarterly SWPC-CSWIG meetings or teleconferences will be held on an as needed basis to aid in decision making and to help ensure that SWPC has the information needed for making decisions.

The “line in the sand,” the division of responsibilities among industry and various government agencies, was also

discussed. As in the terrestrial meteorology community, CSWIG and SWPC have in the past agreed that all tailored forecasts would be done by commercial providers. Participants noted that the Community Coordinated Modeling Center and NASA appear to be violating the agreement with Solar Shield and other projects that provide tailored forecasts. Also, NOAA, and not NASA, has the responsibility for monitoring and forecasting space weather. The summit participants agreed that the “line in the sand” should be maintained and upper level government officials in relevant agencies should be alerted to this problem.

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