

The Fifteenth Conference on Space Weather Austin, TX, 7 – 11 Jan 2018

The Fifteenth Conference on Space Weather, sponsored by the American Meteorological Society (AMS), and organized by the AMS Committee on Space Weather, was held 7-11 January 2018, as part of the 98th AMS Annual Meeting in Austin, TX.

The theme for the 2018 AMS Annual Meeting was "Transforming Communication in the Weather, Water, and Climate Enterprise." Communication is a dynamic, powerful, and essential part of the weather, climate, and water enterprise. Successful communication requires active engagement – not only thinking about what, when, where, how, why, and to whom we speak but also carefully listening to better understand and respond appropriately. Following this theme, the Conference on Space Weather had well-attended sessions on the topics listed below.

We celebrated awards for two members of our community: Robert McCoy received the Space Weather STAC award in recognition of his exceptional service, and Christopher Balch of NOAA/Space Weather Prediction Center received the AMS Francis Reichelderfer Award for his dedication in providing operational space weather forecasts to the public. Student travel awards were given to Disha Sardana (Virginia Tech) who gave an excellent presentation ("Quantifying the Effect of Solar Storms on Total Electron Count (TEC) in the Ionosphere over U.S. Sector Using Neural Networks"), and to Joshua Pettit (University of Colorado) who also made a superb presentation ("Comparison of Two Medium Energy Electron Data Sets in WACCM").

Finally, student STAC member Philip Quinn (University of New Hampshire) conducted a survey of student attendees to help us determine where we were responsive to student needs and where there are areas for improvement. The students felt welcomed and encouraged at the conference, but they indicated that they would benefit from more introductory talks, or perhaps a Short Course, on space weather basics.

The sessions at the 15th Conference on Space Weather were as follows:

Session 1: "Next steps in Space Weather Research and Forecasting"

This session focused on progress being made by the federal agencies as well as the commercial and academic sector in moving forward with research that enables better space weather forecasts and improves communication of these results.

Session 2: "Shifting Paradigms: Communicating Space Weather through Social and Broadcast Media"

New modes of communicating space weather to a very eager public are becoming available. Some of these critical paths may be through broadcast and social media, and having actionable forecasts immediately accessible to the public could make all the difference. This is the paradigm shift that we must strive for—that space weather is real, relevant, and knowable. The proposed session combined the expertise of space scientists, meteorologists, and broadcasters to stimulate an interdisciplinary discussion during this pivotal time in both the history of the AMS and in the communication of Space Weather.

Session 3: "Results from the Great American Solar Eclipse"

The total solar eclipse occurred on August 21, 2017 having its path of totality spanning the continental United States. Talks from this session highlighted early results from observations of

the eclipse with an emphasis on space weather impacts. Presentations from citizen science activities related to the solar eclipse were welcomed.

Session 4: "Impact of Space Weather on Communication"

This session focused on the on many ways that space weather impact communication.

Session 5: "Major Scientific Challenges in Space Weather"

Papers were presented on key science challenges, including prediction of solar flares, determining the geoeffectiveness of space weather storms, and understanding and predicting ionospheric variability.

Session 6: "Observational Platforms for Space Weather"

This session looked at some of the many new facilities that are coming into existence as well as being proposed. Existing facilities are being upgraded or developing new techniques. The focus of these two sessions was on the way these new observational capabilities support the space weather enterprise.