

Space Weather Activities at the NOAA Space Environment Center and the International Space Environment Service (ISES)

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Abstract

The NOAA Space Environment Center is the focal point for real-time space weather monitoring and prediction in the United States. The Space Weather Operations (SWO) division staffs a 24-hour/day operations center, through which both in-situ and remotely sensed data and imagery flow. These diverse data streams are analyzed continuously, and that information is applied to both predictions and specifications of various aspects of the space environment. These include the behavior of the geomagnetic field, the character of the ionosphere, and the strength of the near-earth radiation environment. Models are brought to bear in each of these areas, as SEC has an active research-to-operations transition effort. The Rapid Prototyping Center is the venue through which pertinent models and data must pass to be brought into the operational arena. The model outputs are then made available both internally and externally. SEC is a member of the ISES, a partnership currently consisting of eleven nations. ISES is a permanent service of the Federations of Astronomical and Geophysical Data Analysis Services (FAGS) under the auspices of the International Union of Radio Science (URSI) in association with the International Astronomical Union (IAU) and the International Union of Geodesy and Geophysics (IUGG). ISES was called IUWDS (International URSIgram and World Days Service) until 1996. The IUWDS was formed in 1962 as a combination of the former International World Days Service, initiated in 1959 as part of the IGY, and the former URSI Central Committee of URSIgrams, which initiated rapid international data and interchange services in 1928. The mission of the ISES is to encourage and facilitate near-real-time international monitoring and prediction of the space environment by: the rapid exchange of space environment information; the standardization of the methodology for space environment observations and data reduction; the uniform publication of observations and statistics; and the application of standardized space environment products and services to assist users in reducing the impact of space weather on activities of human interest. An overview of the operational attributes of the SEC, and the function of the ISES, will be presented. This includes a look at the future of the SEC-ISES cooperative functions.