SWx TREC: Further Developments on an Integrative Space Weather (SWx) Data Portal

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Working under the Space Weather Technology, Research and Education Center (SWx-TREC https://www.colorado.edu/spaceweather/). The Laboratory for Atmospheric and Space Physics (LASP) is developing a Space Weather (SWx) Data Portal to provide unified access to disparate datasets to help close the Research to Operations (R2O) and Operations to Research (O2R) gap.

LASP is building the SWx Portal leveraging technologies developed in support of spacecraft operations (WEBTCAD), Irradiance Dataset viewing and downloading (LISIRD: http://lasp.colorado.edu/lisird/ ) and the MAVEN and MMS Science Data Portals. The primary technologies include a data model and software library that enables data interoperability known as LaTiS (https://github.com/latis-data) and the LASP Extended Metadata Repository (LEMR) which is developed as ontologies that not only represent the datasets, but also the front-end elements which are used to display them. Additionally, we have developed a JavaScript science data display technology that leverages off LaTiS server instances to allow for consistent and straightforward display of datasets. These technologies together facilitate a common interface to myriad datasets and formats which will enable us to expand the offerings quickly and provide consistent visualization, access to metadata, and download capabilities across them.

This presentation will discuss advancements in the portal development in the last year to both in terms of available datasets and in terms of new functionality. We will also provide a demonstration of the released system that will include datasets demonstrating a solar event, its progression toward Earth and its Earth affect perspective of Space Weather Data centering on the 2015 St. Patrick's day storm.