JPSS Proving Ground and Risk Reduction

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Abstract

The JPSS Proving Ground and Risk Reduction (PGRR) program's primary objective is to maximize the benefits and performance of NPP/JPSS data, algorithms, and products for downstream operational and research users (gateways to the public) through: Detailed characterization of data attributes such as uncertainty (accuracy and precision) and long-term stability engaging users to enhance their applications (and develop new ones) by working together to facilitate optimal utilization of JPSS data, algorithms and products in combination with other data sources through onsite/offsite testbeds, experimental data streams, and intercomparisons of enhancements with baselines Education, Training and Outreach Facilitating transition of improvements (new algorithms/applications) to operations.

The Proving Ground component of the Program is similar to GOES-R, and is defined as the demonstration of new products (current or enhanced) at a user facility, such as a National Weather Service (NWS) office. The Proving Ground process includes feedback from the users, which results in further optimization of research and applications. The Risk Reduction component of the Program is also similar to GOES-R, and is defined as the development of new research and applications that will maximize the benefits of satellite data for a well-defined end-user application. Blending or fusing data/information from multiple satellites (GPM, GOES-R, GCOM, SMAP, etc.), model (NWP, CRTM, etc.) and in-situ data can be proposed as long as JPSS is a primary contributor. Engagement with a user is an important part of the process, but here the primary work is done at the algorithm and application developer's institution. The JPSS PGRR activities have resulted in real-time routine utilizations of Suomi NPP data by NWS Forecast Offices. VIIRS snow, ice, fire, smoke products are being evaluated by NWS. S-NPP sounders (CrIS and ATMS) are being assimilated by NWS Global Forecast System (GFS). The VIIRS ocean color data are being evaluated by NOS and NMFS.