

# NASA SPoRT GOES-R Proving Ground Activities

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Along with its partner WFOs, SPoRT is evaluating MODIS/GOES Hybrid products, which brings ABI-like data sets from existing NASA instrumentation in front of the forecaster for everyday use. The Hybrid uses near real-time MODIS imagery to demonstrate future ABI capabilities, while utilizing standard GOES imagery to provide the temporal frequency of geostationary imagery expected by operational forecasters. Several examples of the impact of the high-resolution imagery have already been documented. In addition, SPoRT is collaborating with the GOES-R hydrology AWG to transition a baseline proxy product for rainfall rate / quantitative precipitation estimate (QPE) to the OCONUS regions. SPoRT has worked to provide the product within the user's display system to Alaska WFOs and the RFC in order to test its application at high latitude and understand the limitations. Similar work is occurring in the Pacific Region. SPoRT is collaborating with the developer on product training and it will facilitate evaluation of the product within operations, leading to discussions between users and the developer on potential product improvements. SPoRT is assisting in the transition of the Convective Initiation (SATCAST) proxy product by the University of Alabama Huntsville as part of their work in the Aviation Algorithm Working Group (AWG). SPoRT has provided this product for use at the Hazardous Weather Testbed (HWT) Spring Experiment, and to several WFO partners who have provided feedback on the product including a nocturnal event during GOES rapid-scan operations.

In addition, SPoRT is a leading participant in preparing end users for the Geostationary Lightning Mapper (GLM). Leveraging off of SPoRT's expertise of ground-based total lightning observations at partner forecast offices, SPoRT has developed the Pseudo Geostationary Lightning Mapper (PGLM) suite of products. These include a flash extent density, flash initiation density, and maximum flash density. Ground-based total lightning observations have been used for improved situational awareness, severe weather warnings, and lightning safety. SPoRT has collaborated with the HWT's Spring Experiment since 2009 by developing the PGLM, providing training on NOAA's learning management system, and supplying real-time data. Furthermore, SPoRT as part of the Visiting Scientist Program, is visiting both the Aviation Weather Center and Storm Prediction Center to expand the evaluation of PGLM data to national centers. All of these activities serve to provide end users with training and demonstrations of total lightning to prepare for the GLM, provide end users the opportunity to provide feedback on how to best visualize these data within AWIPS II, and to develop techniques that fuse total lightning observations and applications with existing observational data sets.