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6-2 The Forecasting and Monitoring of
Convection Associated with Flash Flood Threats

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The National Weather Service Weather Prediction Center (WPC) and the National Environmental Satellite, Data, and Information Service (NESDIS) Satellite Analysis Branch (SAB) forecast and monitor the potential for heavy rainfall and flash flooding year round. Every year, flash flooding leads to property damage and loss of human life. WPC and SAB have routinely used current satellite products from GOES, radar, and models to pinpoint where the greatest threats exist. With the advent of the Satellite Proving Ground for Marine, Precipitation, and Satellite Analysis, these centers have access to experimental datasets that are proving useful in current and future operations.

The WPC and SAB are focusing on the short term convective evolution to monitor these heavy rainfall events as part of the NOAA Satellite Proving Ground activities. A variety of convection targeted next generation GOES-R and JPSS satellite proxy products are being evaluated in operations to prepare for the increased temporal refresh rate and spatial resolution imaging, total lightning from the Geostationary Lightning Mapper (GLM), and derived products and services. The derived satellite products included in the 2014 Summer Convective Demonstration included a Nearcast model for atmospheric monitoring of the pre- and near-storm environment prior to convective initiation, a convection toolkit comprised of GOES-R Convective Initiation, Overshooting Top Detection, GLM Lightning Density, an RGB Air Mass decision aid, and Day-Night Band products for convective monitoring. This presentation will focus on the lessons learned during the evaluation and forecaster feedback on how the products performed in concert with other observational platforms.