

## GOES-R Proving Ground Activities within the Storm Prediction Center

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Geostationary Operational Environmental Satellite R-Series (GOES-R) Proving Ground (PG) efforts at the Storm Prediction Center (SPC) in Norman, OK, seek to increase forecaster awareness of and preparedness for GOES-R's advanced capabilities and products. Additionally, specific forecaster needs are identified that may be addressed with the use of innovative satellite data. PG activities within the SPC are focused on how GOES-R can help the SPC complete its mission of issuing timely and accurate short-term forecast products for high-impact mesoscale weather events.

PG activities in the SPC include participation in shadow shifts to become familiar with various aspects of SPC: operational procedures, observational and model products being used in forecast decision-making, and the challenges faced by the forecasters. These one-on-one interactions build trust with the forecasters and provide a detailed look into SPC operations that prove valuable in identifying situations in which GOES-R and other satellite-related products may be useful to operations in unique and/or complementary ways. After potentially beneficial products are identified, introductory training material is developed and made available to forecasters. Real-time demonstrations are conducted at a spare desk in operations, allowing forecasters to learn how to properly interpret the information and to identify situations where certain products perform well and where they have limited utility. This strategy provides exposure to several of the most applicable products to forecasters over a long period of time (i.e., months), while not overwhelming them with an abundance of new information that is not relevant to SPC operations.

Some of the GOES-R demonstration products that can be applied to convective forecasting include the NearCast Model, Cloud-Top Cooling, Overshooting Top Detection, Convective Initiation Algorithm, Total Lightning Detection (pGLM), GOES-14 1-minute imagery, and Low Cloud/Fog Detection. Case studies showing the utility of GOES-R products for SPC operations are presented, and initial feedback and results from demonstrations are discussed.