Future NOAA/NESDIS products will aim to merge multiple data sources into informative and user-friendly value-added products. The next generation of geostationary (GOES-R series) and polar-orbiting (JPSS) satellites will improve remote sensing capabilities. New products have been developed and demonstrated to prepare users to take full advantage as soon as data this new data begins flowing. Unlike the infrared and visible sensors aboard geostationary satellites, passive microwave radiometers are not obscured by clouds and can characterize the precipitation field. Accurate precipitation fields, particularly over the oceans, provide invaluable information to hurricane forecasters characterizing the structure of storms. Additionally, lightning data will improve precipitation algorithms to better identify the regions of convective precipitation in the GOES-R and JPSS era.

This talk illustrates potential methods for combining observations from the GOES-R and JPSS sensors. One example product will combine GOES-R rapid scan imagery with the planned Geostationary Lightning Mapper (GLM) observations to aid operational severe weather forecasting. The Washington D.C. Lightning Mapping Array (DCLMA) continuously monitors electrical activity in the D.C. metropolitan area and acts as a proxy for GLM. Combining special super-rapid scan imagery with DCLMA during a tornado outbreak on 13 June 2013 demonstrated the potential value of a merged product to forecasters, emergency managers, and the general public. A sudden increase in lightning activity, known as a “jump”, preempted touchdown of two isolated tornadoes by approximately 20 minutes. This near-real time imagery could provide invaluable information for the forecasting severe storms.