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JPSS DATA PRODUCTS CALIBRATION/VALIDATION UPDATES

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The Joint Polar Satellite System (JPSS) is the National Oceanic and Atmospheric Administration's (NOAA) next-generation operational Earth observation program that acquires and distributes global environmental data primarily from multiple polar-orbiting satellites. The first JPSS satellite mission, the Suomi National Polar-orbiting Partnership (S-NPP) satellite, was successfully launched in October 2011. S-NPP, along with the legacy NOAA Polar Operational Environmental Satellites (POES), provides continuous environmental observations. Two JPSS satellites will follow S-NPP: JPSS-1, planned for launch in fiscal year (FY) 2017, with JPSS-2 to follow in FY 2022.

NOAA/NESDIS/STAR established JPSS-STAR (JSTAR) Program to provide managerial and technical expertise for the JPSS Sensor Data Record (SDR) and Environmental Data Record (EDR) algorithms. JSTAR SDR and EDR science teams have been formed to conduct detailed work on calibration/validation/evaluation, updating, and maintaining of the algorithms for the SDR and EDR products.

To assure that the quality of the products and the performance of the algorithms meet the requirements, Beta, Provisional, and Validated maturity levels have been defined to track the algorithm calibration/validation maturity status. The maturity status is measured by comparing the performance of the algorithm against the requirements as well as the level of validation accomplished. Declaring SDR/EDR product maturity is the result of a readiness review that documents whether the products meet a series of criteria defined for each maturity stage. Thus far, all the S-NPP SDR products and most of the EDRs have reached the validated maturity level. With the approach of JPSS-1 launch, JSTAR SDR and EDR teams are working on the JPSS-1 Calibration/Validation Plan based on the lessons learned from S-NPP. The schedule for the maturity of the JPSS-1 data products is expected to be accelerated compared to that of S-NPP.

This presentation presents an overview of the JPSS Algorithm Calibration/Validation updates as part of JSTAR quality assurance (QA) management. Detailed S-NPP product maturity status, JPSS-1 Cal/Val timeline, Cal/Val methodology/strategy, test data sets, and Cal/Val schedules/milestones are described in this presentation.