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Status and Plans for GPM and IMERG as They Enter Version 07

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As part of the "extended operations" past the 3-year prime mission, the Global Precipitation Measurement (GPM) mission continues to develop improved products, currently rolling out the next Version 07 datasets. This is later than expected, due to unforeseen complications in upgrading algorithms. Example upgrades include: Complete data across the shift in scanning strategy by the Dual-frequency Precipitation Radar is now provided. The Goddard Profiling (GPROF) algorithm is improved in regions where orographic enhancement and suppression take place, or where the surface is snowy/icy. One key point is ensuring continuity across the boundary between the Tropical Rainfall Measuring Mission (TRMM) and of the GPM Core Observatory for each product. As well, analyses by users have directly affected algorithm development. Specifically, user research on precipitation features in the Integrated Multi-satellitE Retrievals for GPM (IMERG) led to findings on how the forward/backward morphing process and Kalman filter (KF) weighting distorts the Probability Density Function (PDF) of regional precipitation rates. This insight has led to the Scheme for Histogram Adjustment with Ranked Precipitation Estimates in the Neighborhood (SHARPEN), a regional adjustment to the PDF of KF precipitation estimates. In another initiative, the IMERG team worked with a user to develop the Histogram Anomaly Time Series analysis, providing a simple summary of the time series of anomalies in the PDF of precipitation over a region, and revealing natural and input-based variations in precipitation.

We will report the status of GPM Version 07 processing as of the conference time, and provide some examples of the changes in algorithm performance between Versions 06 and 07.