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Introducing the GPCP Version 3.2 Daily Precipitation Dataset

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The Global Precipitation Climatology Project (GPCP) recently released the Version 3.2 Daily dataset, providing state-of-the-art estimates of daily precipitation over the globe for the period June 2000-December 2020. The V3.2 Daily product features several important enhancements over its predecessor, the V1.3 GPCP One-Degree Daily (1DD) product, including higher spatial resolution at 0.5°, a state-of-the-art algorithm in the tropics and mid-latitudes, and more modern input data sources. Within the region 55°N-55°S, the V3.2 Daily is based on the half-hourly Integrated Multi-satellite Retrievals for the Global Precipitation Measurement (GPM) mission (IMERG) V06B Final Run aggregated to the daily scale. In the regions 90°N-55°N and 55°S-90°S, the V3.2 Daily consists of an intercalibrated record of TOVS and AIRS precipitation estimates. Near 55°N and 55°S, an empirically developed “feathering” technique is used to minimize discontinuities at the boundaries between the IMERG and TOVS/AIRS domains. The daily precipitation estimates are calibrated to the V3.2 Monthly to control bias and create a consistent downscaling of the Monthly. In addition to precipitation, the V3.2 Daily also includes daily gridded estimates of probability of liquid phase (PLP), using the same scheme developed for IMERG.

We will show sample global maps and animations of V3.2 Daily precipitation and PLP. Additionally, global time series of V3.2 Daily precipitation compared with 1DD will be presented. Plans for future enhancements to the product will also be discussed.

As a living dataset, the record will be extended periodically as future input data become available. Furthermore, the Daily archive will be updated to maintain consistency with subsequent revisions to the Monthly record, and it will likely be further revised after the impending major upgrade to IMERG V07. While the GPCP Version 3 Daily and Monthly products are fine-tuned to Climate Data Record quality, the legacy GPCP datasets will continue to be produced. The overarching goal is to continue to provide a long-term record of global precipitation that applies the most modern methods throughout.