

10.13 COMPARING THE GLOBAL PRECIPITATION MEASUREMENT MISSION WITH RADAR NETWORKS

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Characterization of space-borne precipitation accuracy and uncertainties is critical for applications at the global scale including water budget studies or monitoring natural hazards caused by extreme rainfall events. An adequate ground reference is needed to document the consistency of the Global Precipitation Measurement (GPM) level-2 and level-3 estimates. Over the U.S., GPM products are compared to a ground reference derived from NOAA/NSSL's Multi-Radar/Multi-Sensor (MRMS) platform involving dual-polarized radar and gauge networks. Gauge adjustment and quality controls and filtering procedures are necessary to derive a reference 1) accurate with known uncertainty bounds and 2) measured at a resolution below the pixel sizes of the GPM sensors and gridded products. An application of this framework to the French ARAMIS radar network is presented to contrast GPM regional performances. Comparisons have been carried out at fine scale within a framework developed to examine the consistency of the ground and space-based sensors in term of precipitation detection, characterization (e.g. convective, stratiform) and quantification. Perspectives will be presented such as comparison with French overseas radars of La Reunion, an area known to receive each year one the world highest annual rainfall accumulation.