

ABSTRACT

PHILIPPINE GRIDDED PRECIPITATION FROM FUSED IN-SITU AND SATELLITE MEASUREMENTS

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Due to sparsely distributed synoptic stations in the Philippines, representation of precipitation is inaccurate. Satellite-derived products, such as TRMM and GPM, are available as substitute for a more precise and robust measurements. However, these products tend to over- and underestimate rainfall depending on the season. This study aims to create a gridded precipitation data for the Philippines through incorporating a dense network of rain gauges and blending it with available satellite products.

Scattered all over the country, the rain gauges of DOST-ASTI reports precipitation measurements that are distances-dependent when compared to synoptic measurements. Inverse distance weighting (IDW) was done to estimate precipitation in a 0.1° cell. Products of IDW correspond well with overlapping synoptic measurements. These ground precipitation estimates were then subject to regression kriging together with gridded GPM precipitation to create a fused in-situ and satellite measurements.

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