# Supplementary Materials: Assessment of the Latest GPM-Era High-Resolution Satellite Precipitation Products by Comparison with Observation Gauge Data over the Chinese Mainland

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**Table S1.** Validation statistics of the GSMap-MVK precipitation estimates over Mainland China from April 2014 to November 2015.

| Satellite Product | ME (mm/Day) | RMSE (mm/Day) | CC | POD | FAR |
|---|---|---|---|---|---|
| GSMap-MVK (ver. 6) | −0.14 | 6.96 | 0.63 | 0.72 | 0.38 |

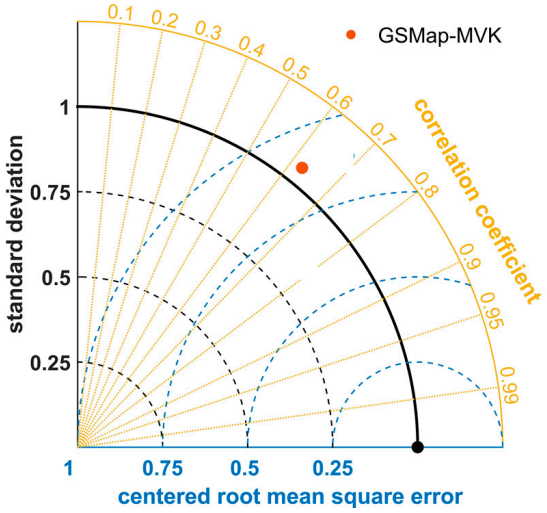


**Figure S1.** Taylor diagram for GSMap-MVK.

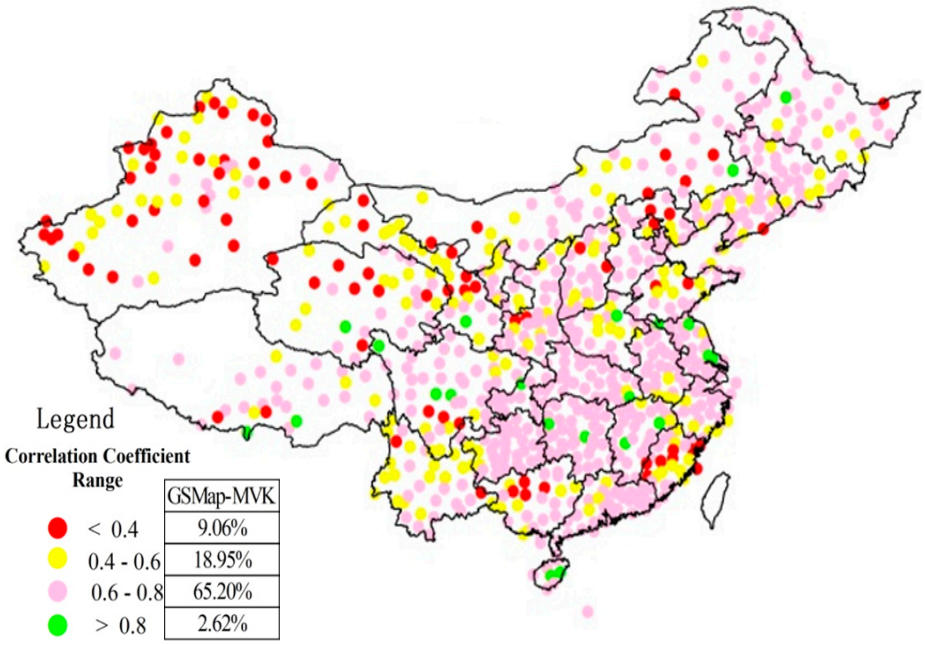


**Figure S2.** Distribution of CC between GSMap-MVK and gauged data over the Chinese Mainland.

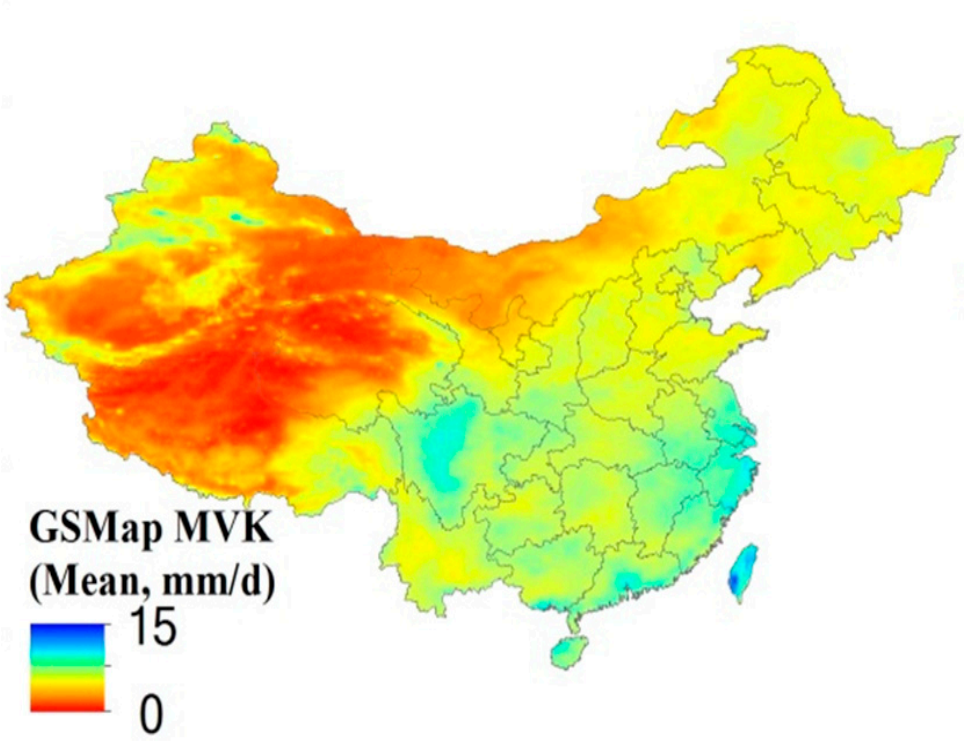


**Figure S3.** Distribution of daily mean precipitation over the Chinese Mainland from April 2014 to November 2015 for GSMap-MVK (Units: mm/day).

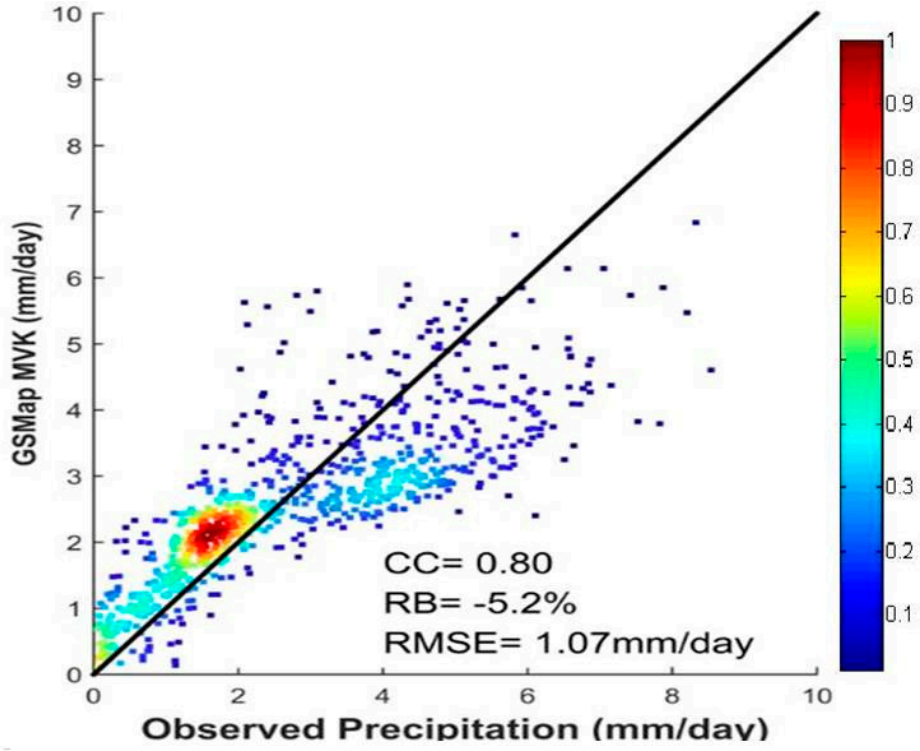


**Figure S4.** Density-colored scatterplots of GSMap-MVK against the 840 gauge station observed precipitation. The dark solid line is the 1:1 line. The color represents the occurrence possibility, red color region indicates that high percentage of total points locate in that area.

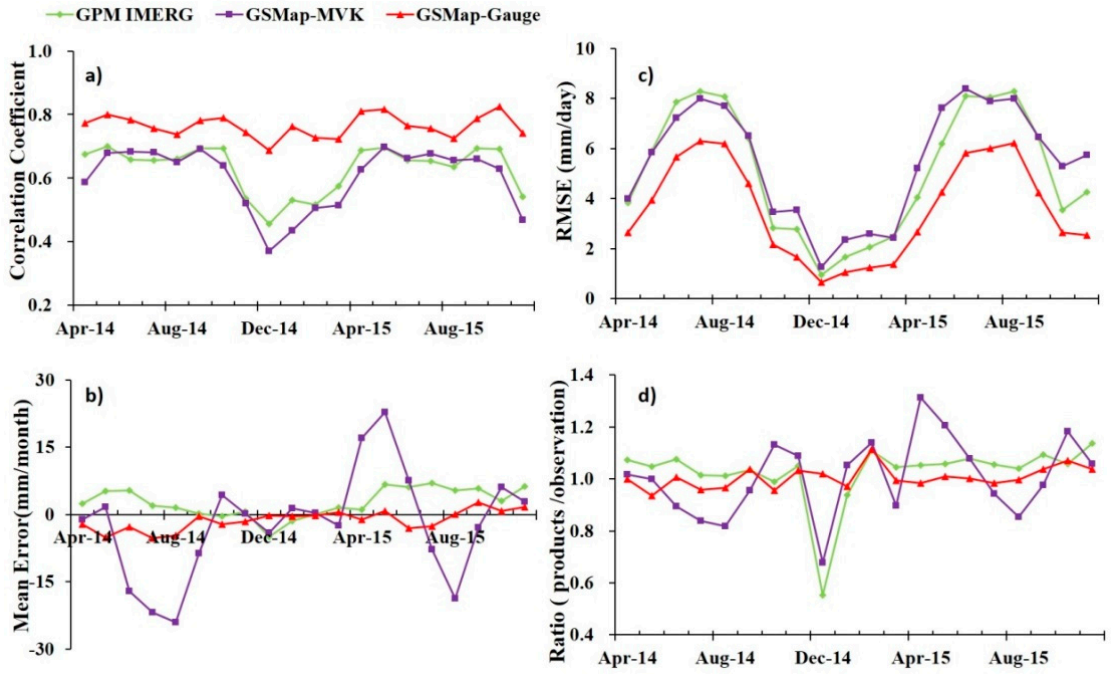


**Figure S5**. Monthly time series of (**a**) correlation coefficient; (**b**) mean error; (**c**) RMSE; and (**d**) ratio between satellite products and observation.

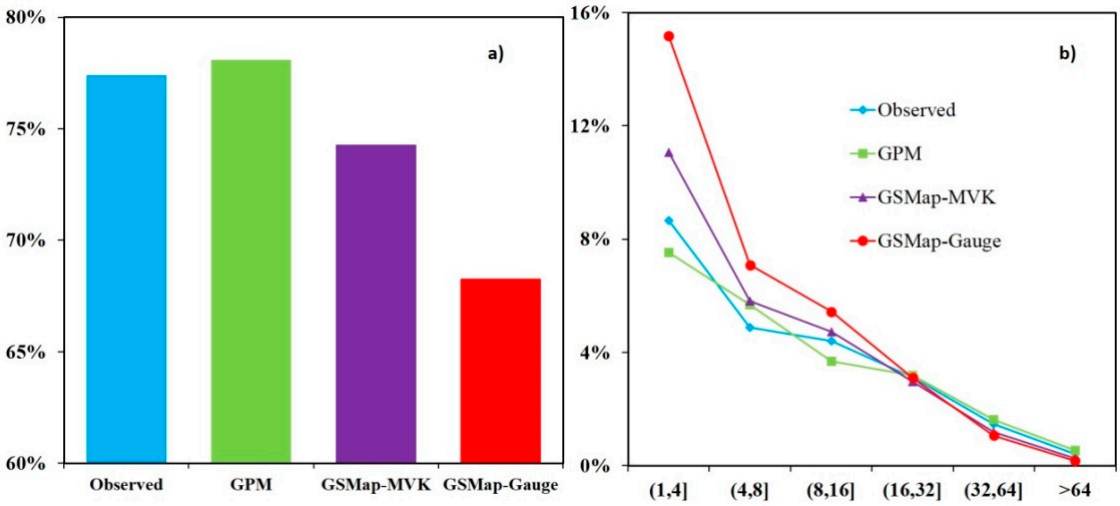


**Figure S6.** (**a**) The frequency distribution of daily precipitation by occurrence for the no rain and light rain (≤1 mm/day) case; (**b**) The frequency distribution of daily precipitation by occurrence for the cases with different intensities. Only grids containing at least one gauge station and for which both the reference and the satellite estimates were not missing were selected for calculation.

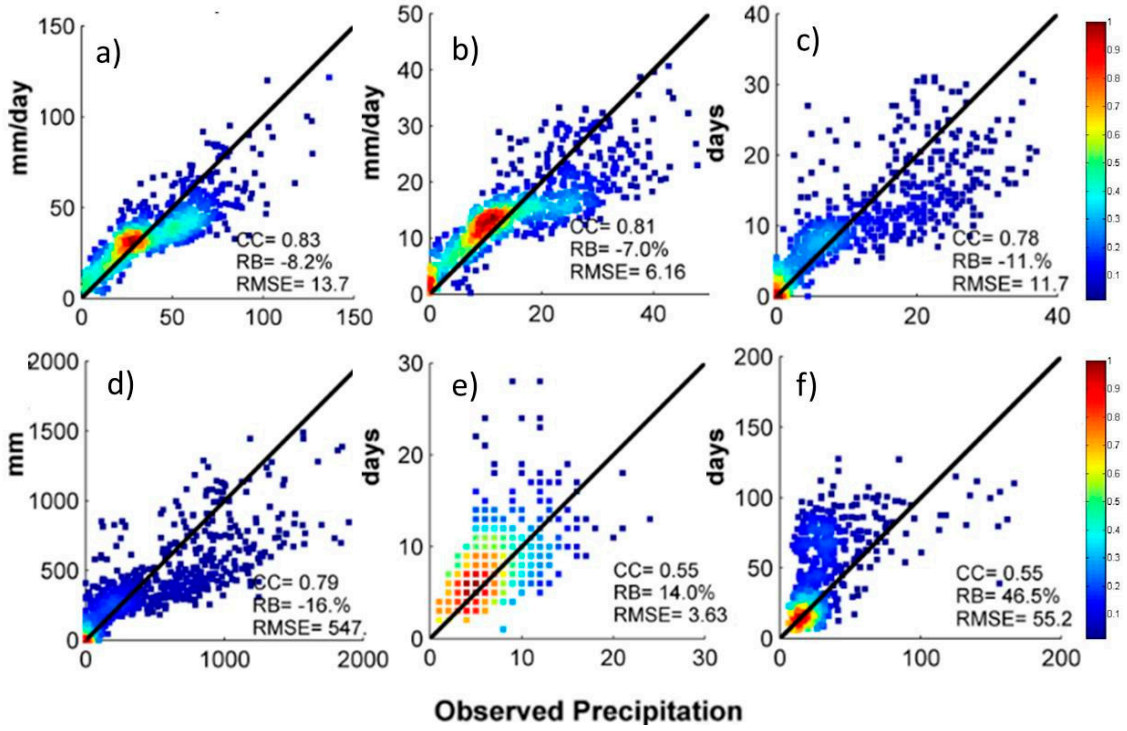


**Figure S7.** Density-colored scatterplots of six extreme precipitation indices for GSMap-MVK throughout China, (**a**) RR99P; (**b**) RR95P; (**c**) R20mm; (**d**) R20mmTOT; (**e**) CWD; (**f**) CDD. The dark solid line is the 1:1 line, the color represents the occurrence possibility and red indicates more points that are located in that domain.