



Supplement of

Diurnal variability of global precipitation: insights from hourly satellite and reanalysis datasets

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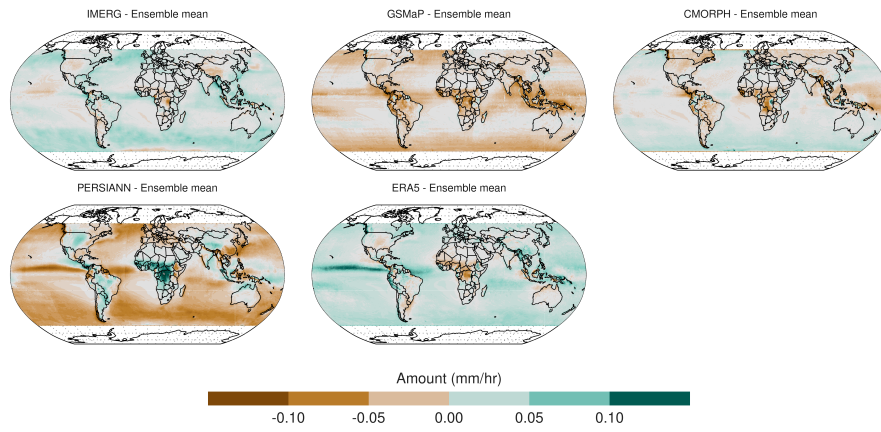


Figure S1: Spatial distribution of global mean precipitation a) Ensemble minus IMERG, b) Ensemble minus GSMaP, c) Ensemble minus CMORPH, d) Ensemble minus PERSIANN, e) Ensemble minus ERA5.

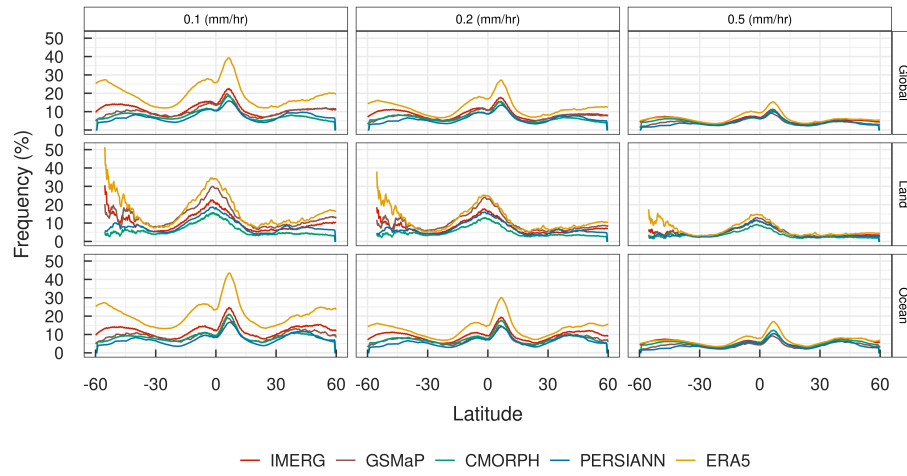


Figure S2: Latitudinal average of precipitation frequency among the estimates at different thresholds.

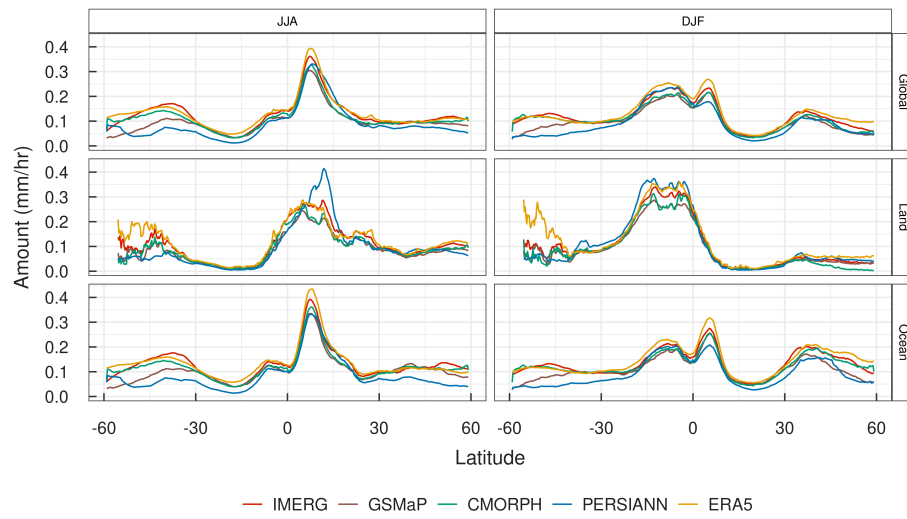


Figure S3: Latitudinal average of mean precipitation amount among the estimates at different seasons.

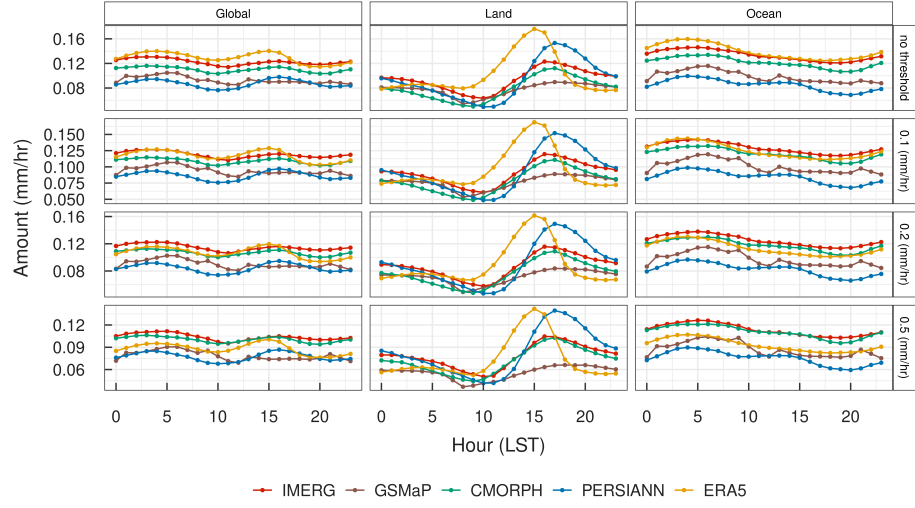


Figure S4: Same as Figure 5a but for different thresholds.

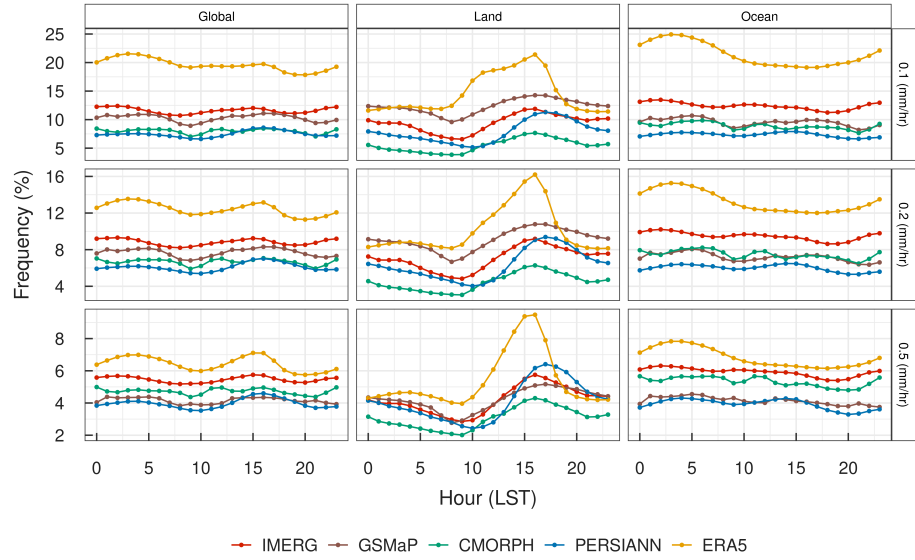


Figure S5: Same as Figure 5b but for different thresholds.

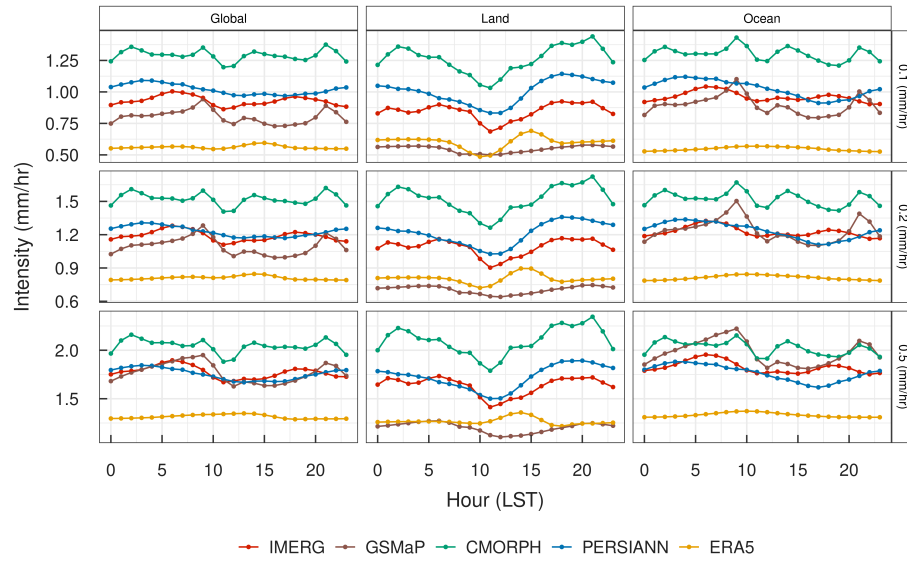


Figure S6: Same as Figure 5c but for different thresholds.

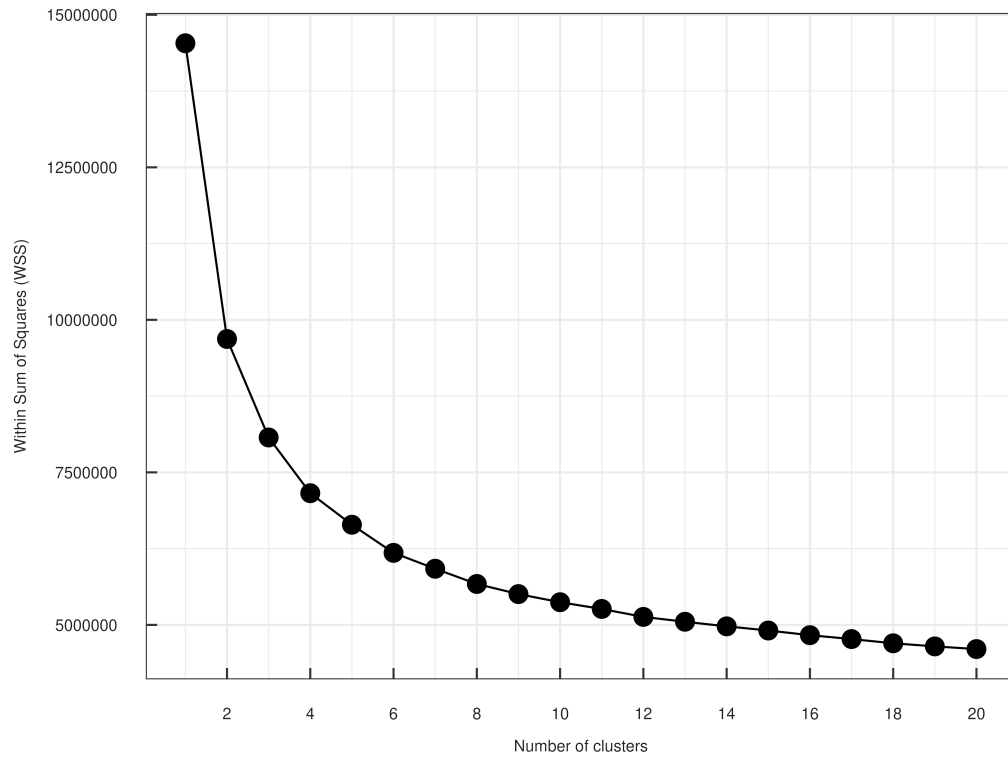


Figure S7: Determination of best cluster using the Elbow method

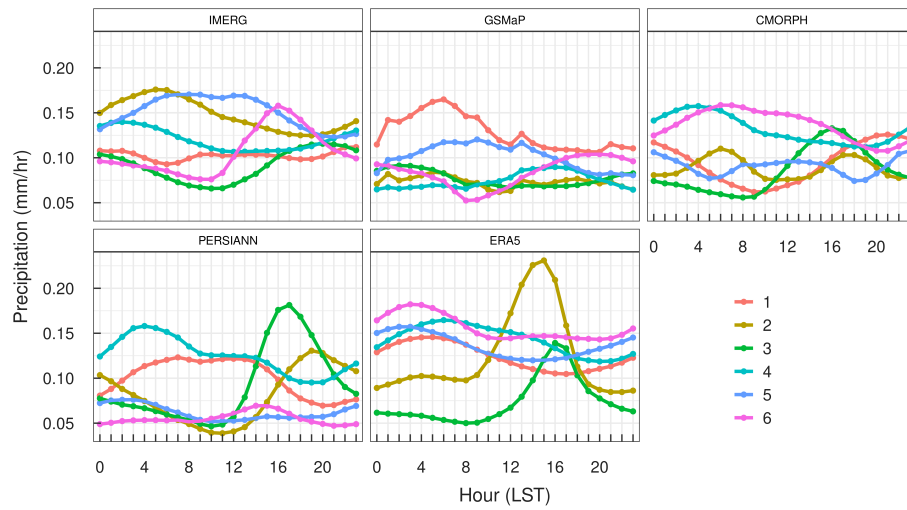


Figure S8: K-means clustering ($k = 6$) produced distinct clusters illustrating the diurnal variation shapes of mean hourly precipitation.

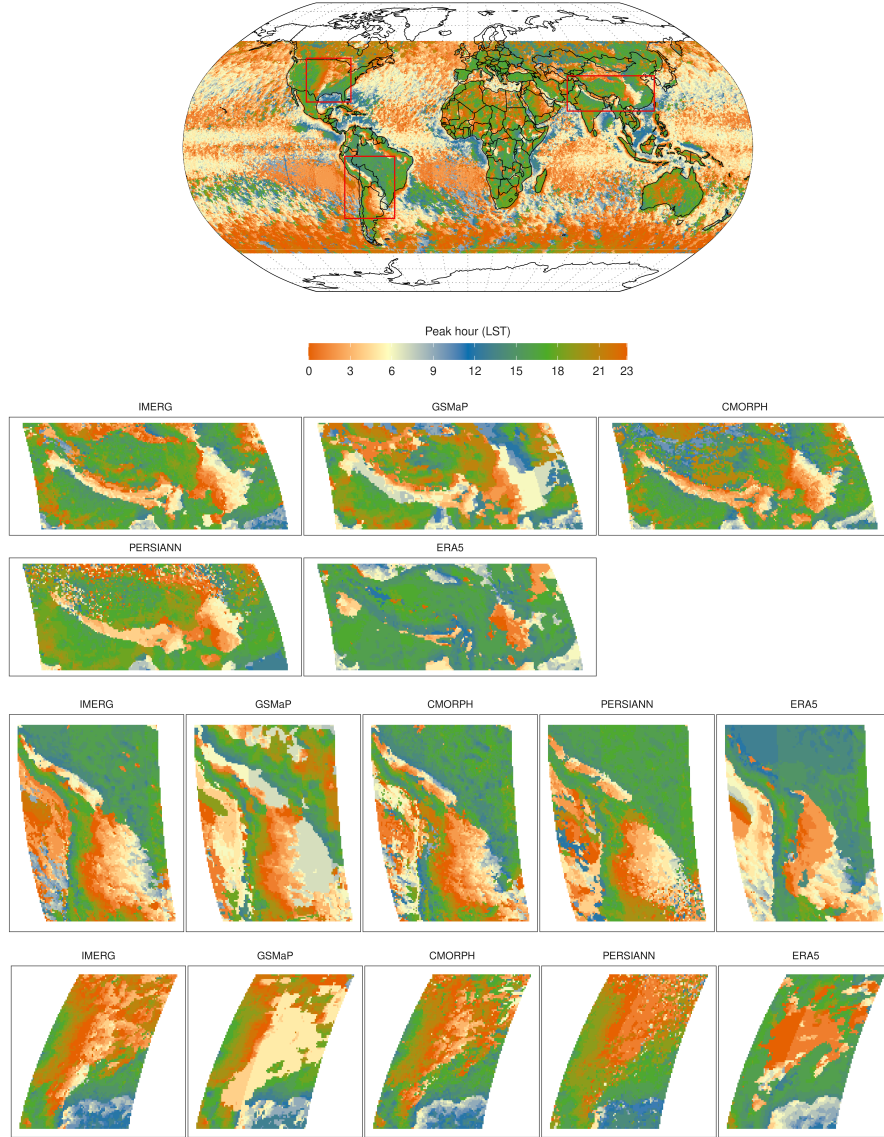


Figure S9: The peak hour of mean hourly precipitation is highlighted, with the rectangular regions showing region-specific features. The first and second rows correspond to the Himalayan region, the third row to the Andes mountain region, and the fourth row to the Great Plains region of the USA.