

## **Abstract**

Probable maximum precipitation (PMP) is defined as the expected maximum depth of precipitation that could be realized at a location for a given duration. PMP, which is conventionally estimated using precipitation gauge data, provides information critical for design of water infrastructure and extreme flood event simulation. However, precipitation data are not readily available in most regions due to limited in situ observations. This dataset contains derived PMPs at different durations (30-min up to 3-day) from the Integrated Multi-satellitE Retrievals for Global (IMERG) precipitation measurements from 2000-2022 using the Hershfield statistical model and assessed them with the PMPs at 2352-gauge stations in the conterminous United States. Two existing statistical adjustments were implemented to remove the inversion problem where the PMP for a shorter duration is larger than that of a longer duration, which is caused by the statistical limitations of small sample data (23-year record length) for extreme value estimation. While the second adjustment corrects for missed maximum precipitation used to estimate the IMERG derived PMP. Methods for creating the gridded Global PMP datasets is explained in paper published at the American Geophysical Union journal of Water Resource Research with a doi in process.