

1 Abstract

## 2 Evaluation of Gridded GPM Precipitation Dataset over Cuba

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12 **Abstract:** Precipitation measurement is essential for most environmental studies, such as drought  
13 monitoring, watershed operations and water hazard management. The development of satellite  
14 products has improved their applicability in environmental models and could offer an alternative  
15 to gauge-based precipitation data, particularly in areas where there is not a sufficient number of  
16 meteorological stations, but they need to be evaluated in different areas using data terrestrial as  
17 references. This research aims to carry out a validation of the product of Integrated Recoveries  
18 from Multiple Satellites (IMERG) of global precipitation measurement (GPM) for the network of  
19 meteorological stations in Havana, Cuba. The study focused on investigating the performance of  
20 GPM IMERG (Early) products every 30 minutes by comparing them with rain gauge data on land  
21 at meteorological stations (2014-2020). The performance of the GPM IMERG was evaluated using  
22 different interpolation methods and performing a statistical analysis. The results obtained allow to  
23 choose the best interpolating method, as well as to evaluate the temporal and spatial precision of  
24 the satellite data. Further work will expand the findings and methods to the Cuban meteorological  
25 stations network.

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