



Satellite precipitation estimates for hydrological applications

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Satellite derived quantitative precipitation estimates are an important source of information for water resources and hydrological modelling. Many precipitation products are currently available in near real time at a range of temporal and spatial scales. The International Precipitation Working Group provides ongoing and comprehensive validation of the more widely used operational satellite precipitation estimates to benefit both the algorithm developers and the users of these products. The working group provides significant validation effort at daily time-scales with several operational and semi-operational satellite products and numerical weather prediction models being validated in near real time over Australia, the United States, Western Europe, Japan and South America. It has been recognised that the validation of precipitation estimates at increasingly finer space and time scales is becoming more important, consequently the Program to Evaluate High Resolution Precipitation Products (PEHRPP) has been devised to validate sub-daily precipitation estimates. PEHRPP aims to characterize errors in various high resolution precipitation products at many spatial and temporal scales over varying surfaces and climatic regimes. This is aimed at enabling algorithm developers to improve their products and potential users to understand the relevant characteristics of the products. This paper outlines the current precipitation validation activities and demonstrates the range and capabilities of satellite-derived precipitation products.