



The evaluation of high resolution precipitation products derived from satellite observations

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The principal goal of the Program to Evaluate High Resolution Precipitation Products (PEHRPP) is to characterize as clearly as possible the errors in the numerous high resolution precipitation analyses and forecasts on many spatial and temporal scales over varying surfaces and climatic regimes. PEHRPP builds upon the successes of earlier validation projects by enhancing our understanding of the physical basis for the observed characteristics and errors, and will help to develop the body of knowledge that will permit the improvement of existing techniques and the development of new ones. PEHRPP consists of four suites of validation activities. Suite 1 comprises a collection of regional validation sites in Australia, U.S., South America, Africa, Asia and Europe. It will provide comparisons over large areas and for relatively long continuous time periods of daily totals for $0.25^{\circ} \times 0.25^{\circ}$ areas, aggregated over appropriate spatial domains. The validating observations will be derived from national rain gauge and radar networks. Suite 2 is based upon high resolution time series observations from the CEOP (Coordinated Enhanced Observing Period) sites and other long term data sets such as the TOGA and IMET buoys and the Pacific atoll gauges that provide very high resolution precipitation observations for locations that represent a wide variety of climatological and physical regimes. The principal focus for these comparisons is three-hourly totals over $0.25^{\circ} \times 0.25^{\circ}$ areas, to facilitate comparison to the results of Suite 1. Suite 3 utilizes the very high quality, high resolution, limited duration observations associated with NAME and other field programs to make comparisons on a range of spatial averaging scales for temporal scales from less than one hour to daily. Suite 4 consists of validation of large-scale quantities and characteristics against bulk quantities and subjective judgment. The scales of primary interest here are thousands of kilometers and monthly. In this presentation, we will describe plans for and initial

results from PEHRPP.