Global monitoring with a global, 8km, 1/2 hourly precipitation data set based on satellite observations

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We will show applications of a very high time/space resolution precipitation data set for weather and climate monitoring applications. These analyses allow near-real time monitoring of precipitation features with unprecedented spatial and temporal resolution (8 km, 1/2 hourly) and can be used to diagnose variability of the diurnal cycle to seasonal time scales and beyond.

Without question, instantaneous estimates of precipitation from passive microwave data are superior to those derived from IR data alone. However, these estimates have poor spatial and temporal sampling characteristics because the present generation passive microwave instrumentation is relegated to polar orbiting platforms. IR data from geostationary satellites, on the other hand, offer excellent global coverage equatorward of 60° of latitude in both space and time. A number of efforts are underway to meld the microwave-based estimates with IR data to take advantage of the strengths afforded by each and we present one here. Comparisons with conventional observations such as rain gauges and radar-based estimates will be providedd to establish the validity of this new analysis technique.