The Global Precipitation Climatology Project (GPCP): Status and future

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The Global Precipitation Climatology Project (GPCP) was formed 20 years ago under the auspices of the World Climate Research Program (WCRP) and has succeeded at its primary goal of producing integrated analyses of global surface precipitation observations at monthly and smaller time scales using combined satellite and gauge-based estimates. This work has been accomplished by an international group of scientists and organizations working collaboratively and currently reporting to the GEWEX component of WCRP. The GPCP products have been used in over 2000 journal articles attesting to the quality and utility of the products. The current suite of GPCP products (Version 2.1) includes the core monthly product (1979-present), a pentad (five day) analysis (1979-present) and a daily product available for a shorter period (1997-present). Although these three products have been developed separately and using different input data sets and analysis techniques, the higher time resolution products are adjusted to the core monthly analysis, thus giving a consistent set of analyses. Work is advancing in developing a new, Version 3 of GPCP surface precipitation products as one component of an integrated observational data set of global water and energy cycle being developed under the GEWEX Radiation Panel (GRP). This new version of GPCP will utilize state-of-the-art satellite retrievals and data from new satellites, have higher spatial resolution and provide some information down to 3-hr time resolution for the more recent period, therefore providing a better weather-climate bridge in resolution and linking GPCP products more closely with updated GEWEX data sets related to other water/energy cycle components, such as clouds, surface radiation, etc. Production of the Version 2 products will continue while Version 3 is tested and verified and the large task of reprocessing is accomplished. Highlights of science results detailing variations and trends using the 30 years of the current GPCP will be presented, along with examples of the new, Version 3 products compared to Version 2 and a discussion of quality control and validation aspects of the project.