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7-1 The Global Precipitation Climatology Project (GPCP) CDR AT NOAA: Research to Real-time Climate Monitoring

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The Global Precipitation Climatology Project (GPCP) monthly analysis is a frequently used, standard research product providing a globally complete precipitation analysis based on satellite and gauge information for the period 1979 to the near-present. As a Climate Data Record (CDR) product the current version (Version 2.2) is being transferred to operational production at NOAA NCDC.

The research (CDR) product is usually produced a few months after real-time (and sometimes with an even longer lag) due to time lags of input data sets and time necessary for data quality control and the merging process. This time lag has limited its use in the month-by-month (real-time) climate monitoring of global precipitation. Recently, however, based on a significant amount of effort by a number of groups and people associated with the GPCP, the process for producing an Interim CDR product (ICDR, available within 10 days of the end of the month) has been developed and implemented for distribution to the research and operational communities. This allows for a rapid end-of-month analysis, comparison with the GPCP monthly climatology, and the potential for using the data for additional monitoring calculations. This GPCP ICDR uses the same analysis techniques, but not all the input data sets are identical. Comparison between the final CDR product and the ICDR indicate small, but occasionally significant differences.

The 1979-2014 period is discussed in terms of global and regional variations and trends of precipitation. The ICDR fields for the past several months are then linked to the long-term CDR data set to give up-to-date calculations of these parameters. For example, recent months of precipitation anomalies are related to the distribution of anomalies in terms of percentile to better understand the monthly context of the variations. In addition, a new set of ENSO Precipitation Indices (ESPI) using patterns of anomalies in the central and western Pacific Ocean are calculated from the ICDR and compared to the long record of the CDR-based indices. Results of comparison to existing ENSO indices (e.g., Nino 3.4 SST anomalies) will be presented, along with latest results.