CAMS OPI

The "CAMS_OPI" (Climate Anomaly Monitoring System ("CAMS") and OLR Precipitation Index ("OPI") is a precipitation estimation technique which produces real-time monthly analyses of global precipitation. To do this, observations from raingauges ("CAMS" data) are merged with precipitation estimates from a satellite algorithm ("OPI"). The analyses are on a 2.5 x 2.5 degree latitude/longitude grid, are updated each month, and extend back to 1979. This data set is intended primarily for real-time monitoring. For research purposes, we refer users to the GPCP and CMAP products which are more quality-controlled and use both IR and microwave-based satellite estimates of precipitation.

The CAMS_OPI data files contain, for each month:

- raingauge/satellite merged analysis
- gauge-only precipitation analyses
- the number of gauge reports in each gridbox
- OPI-only precipitation estimates
- gauge/satellite merged analysis anomalies (1979 - 1995 base period)
- anomalies expressed as a percentage of the Gamma distribution

The merging technique is very similar to that described in ***Xie and Arkin*** (1997), and the CAMS_OPI technique has also been published recently (***Janowiak and Xie*** 1999). Briefly, the merging methodology is a two-step process. First, the random error is reduced by linearly combining the satellite estimates using the maximum likelihood method, in which case the linear combination coefficients are inversely propostional to the square of the local random error of the individual data sources. Over global land areas the random error is defined for each time period and grid location by comparing the data source with the raingauge analysis over the surrounding area. Over oceans, the random error is defined by comparing the data sources with the raingauge observations over the Pacific atolls. Bias is reduced when the data sources are blended in the second step using the blending technique of ***Reynolds*** (1988). Here the data output from step 1 is used to define the "shape" of the precipitation field and the rain gauge data are used

to constrain the amplitude.

CAMS_OPI monthly estimates area available from January 1979 to present at the CPC ftp site.

References:

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