

Deliverable EUCLIPSE : "Final versions of CALIPSO-PARASOL observational analysis product"

CALIPSO-GOCCP product

The GCM Oriented Cloud Calipso Product (CALIPSO-GOCCP) is designed to evaluate GCM cloudiness.

CALIPSO-GOCCP contains observational cloud diagnostics fully consistent with the ones simulated by the ensemble "GCM+ CALIPSO simulator" (COSP-CAPSIM) : same spatial resolution for the lidar profile before the cloud detection, and same cloud detection threshold. CALIPSO-GOCCP is derived from CALIPSO Level 1 NASA product (the Attenuated Bascatted Signal at 532nm).

CALIPSO-GOCCP contains four different files for the period 2006-2009 :

- 1) [3D CloudFraction](#) : contains the monthly mean cloud fraction over a 2°x2° latitude-longitude grid box and 40 vertical levels équidistant of 480m between the ground and 19.2 km.

- 2) [MapLowMidHigh](#) : contains the total monthly mean cloud fraction maps, and the monthly mean cloud fractions map at three different vertical levels following the ISCCP definition (Low level for P<680 hPa, Mid level for 680<P<440hPa, High for P<440hPa) over a 2°x2° latitude-longitude grid box

- 3) [SR histo](#) : contains the number of occurrence of the Scattering Ratio within a given bin (19 different bins are considered : -888,-777,-776,0, 0.01, 1.2, 3, 5, 7, 10, 15, 20, 25, 30, 40, 50, 60, 80, 10000) for a given level of altitude in a given latitude-longitude grid box, accumulated over a month. The vertical resolution is 480m and the horizontal resolution is 2°x2°.

- 4) [instant SR](#) : is an orbit file which contains the Scattering Ratio over 40 vertical levels each 330m along the satellite flight track. Each files corresponds to half an orbit and contains the longitude, latitude, altitude, time, ground base élévation and the Scattering Ratio.

Reference : H. Chepfer, S.Bony, D. M. Winker, G. Cesana, JL. Dufresne, P. Minnis, C.J. Stubenrauch, S. Zeng, 2009 : "The GCM Oriented CALIPSO Cloud Product (CALIPSO-GOCCP)", J. Geophys. Res., 105, D00H16, doi:10.1029/2009JD012251.

PARASOL product

The PARASOL-1DIREFL is designed to evaluate GCM cloudiness. It is consistent with the directional reflectance simulated by the ensemble "GCM+PARASOL simulator" (COSP-CAPSIM).

The PARASOL-1DIREFL products contains the Reflectance at 864nm in a constant viewing direction (zenital viewing angle = 30° ; relative azimuth viewing angle = 320°) in monthly mean over a 1°x1° latitude-longitude grid during the period 2005-2008.

CALIPSO-GOCCP and PARASOL-1DIREFL products are available on
<http://climserv.ipsl.polytechnique.fr/cfmip-obs.html>