

GERB Data Formats

This page aims to give you a brief description of the various formats used to disseminate and archive the GERB data. A complete description is available in the Chapter 2 of the **GERB level 2 User Guide** .

Introduction

The GERB level 2 data provide TOA unfiltered radiance and flux for the SW and LW. The level 2 data are available in 3 formats that differ in the spatial and temporal processing applied to the GERB observations. Although the geolocation of the GERB footprint (PSF) is changing at each scan, the level 2 data are always provided on constant rectified geostationary grids. Therefore, the production of the GERB level 2 data involves rectification processes which are different for the 3 formats as described in Dewitte et al. (2008) (see [publications](#)) and summarized hereafter.

ARG : Averaged Rectified Geolocated

The **Averaged Rectified and Geolocated (ARG)** data are an average of three successive GERB scans (covering a period of approximately 17 minutes) presented on a regular (in viewing angle) grid with a sampling distance of 44 km x 44 km at nadir. The ARG values are obtained by bilinear interpolation of the original observations. As no attempt is made to correct for the GERB PSF the radiance and flux values at each grid point are representative of the energy from a larger region than the grid spacing. Additionally, the GERB geolocation noise and the linear interpolation of the observations will affect the radiance and flux values at each point.

BARG : Binned Averaged Rectified Geolocated

The **Binned Averaged Rectified and Geolocated (BARG)** products are averages over fixed 15 minute time intervals (00:00 to 00:15 UTC, 00:15 to 00:30 UTC, etc) presented on a regular (in viewing angle) grid with a spacing of 45 km x 45 km at nadir. The processing is considerably more complex than for the production of the ARG data. It attempts to remove the effect of the PSF, and also provides corrections for errors that may have been introduced in the ARG by the geolocation and rectification processes. This is achieved by using fine scale estimates of the broadband SW and LW radiances inferred from NB measurements made by the SEVIRI instrument on the same MSG satellite. Merging the GERB BB observations and the fine-scale SEVIRI BB estimates results in level 2 BARG radiances and fluxes which are representative of the radiation from exact 15 x 15 SEVIRI pixel areas (i.e. 45 km x 45 km).

HR : High Resolution

Finally, the **High Resolution (HR)** product is presented on a grid with a spacing of 3 x 3 SEVIRI pixels (i.e. 9 km x 9 km at nadir). It is provided every 15 minutes as instantaneous values at the time

of the SEVIRI observations. As for the BARG, fine scale estimates of the BB radiances from SEVIRI are combined with GERB observations to produce the GERB High Resolution data. The GERB HR product is requested to study the radiation budget at relatively small scales (e.g. valley fog).

Data at Stations

For this product, the main quantities are extracted during the processing for a list of pre-defined pixels. These pixels correspond to existing radiometric ground stations. Each 15' and for each station, the data are appended in an ASCII file. This product is designed for processing validation and comparison with ground measurement over extended temporal periods. More info [here](#).

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Last update: **2010/02/23 10:41**

