

EPS-SG IASI-NG L1D Test Data

The L1D test data set is generated by the IASI-NG L1D IPP (In-house Prototype Processor) using simulated L1C test data and auxiliary data as input. The auxiliary data (IAS-1D-AUX_EIGV and IAS_1D_AUX_PCCC), contains the IASI-NG eigenvectors and the static parameters to configure the Principal Component Compression.

The L1D test data is in NetCDF format following the “EPS-SG IASI-NG L1D Product Format Specification” version 3E and contains the same information as the L1C, except that the radiances are compressed by using Principal Component scores.

Three full orbits of data are provided: Two successive orbits covering sensing times from 08:43 to 12:02 on 2007/09/12 as well as an orbit covering sensing times from 08:46 to 10:28 on 2008/02/23. Additionally 10 granules from two other orbits on 20120818 and 20100506 are provided.

The PC scores are provided separately for each of the 4 spectral bands, in the four NetCDF datasets /data/measurement_data/pcscores_bx, where x = 1,2,3,4 (the scale_factor of 0.5 given as attribute must of course be applied to the PC scores). To reconstruct radiances from the PC scores the eigenvector files are needed, there is one eigenvector file for each band: IASI-NG-Band-x-EigenvectorsFile-1.0.h5, where x=1,2,3,4. Each eigenvector file has four datasets: /Nedr, /CompressionOperator, /Mean and /ReconstructionOperator, but only the last two are used for the reconstruction. Let p be the PC scores for a given pixel (and a given band). The corresponding radiances, r , are obtained by the formula $r = \bar{y} + R^T p$ where \bar{y} is taken from the /Mean dataset and R is taken from the /ReconstructionOperator dataset. The dimension of the reconstruction operator is the number of PC scores times the number of channels.

Issues:

The current format specification does not allow to represent sun zenith angles higher than 90 degrees.

Data is only available for the most basic datasets such as the PC scores and the sensing geometry. Unavailable data has been set to the missing_value. This is for example the case for all data derived from collocated MetImage data in the /data/measurement_data/radiances_classification/ group. Furthermore some dimensions for datasets where we have only dummy values are set to 1 (which will not be the actual dimensions for these data). This is the case for these four dimensions: n_class_channels, n_class, class_image_nl and class_image_nc.

Please contact ops@eumetsat.int if you have any questions.