

IASI L0 and L1 Daily Monitoring Report **Metop-B**

IASI monitoring team

31/08/2026 00:00:00 - 01/09/2026 00:00:00

1 Introduction

This report provides summary monitoring plots and figures from IASI instrument on the Metop-B satellite retrieved from the IASI L0 and L1 ENG product (3 minutes data packet) for 31/08/2026 00:00:00 - 01/09/2026 00:00:00 .

The monitoring data are extracted on PDU basis.

2 Data quantity 31/08/2026 00:00:00 - 01/09/2026 00:00:00

Product Type	Number	Action
L0 HKTM PDUs	481	-
L0 IASI PDUs	481	-
L1 ENG PDUs	473	-
L1 ENG distinct GEPSGranule	469	-
L1 DPX PDUs (RM: IASI-HIRS)	0	e
L1 DPS Files (RM: OBS-CAL NWP based)	473	-

Table 1: Data quantity

APID	Seq from	Seq to	Time from	Time to
PX1 (130)	2318	2504	20260831173903.136	20260831173952.433
PX2 (135)	2317	2504	20260831173902.917	20260831173952.433
PX3 (140)	2317	2504	20260831173902.917	20260831173952.433
PX4 (145)	2317	2503	20260831173902.917	20260831173952.214
IMG (150)	16217	43	20260831173902.917	20260831173952.214
VER (160)	5110	5141	20260831173858.163	20260831173954.163
AUX (180)	7570	7577	20260831173858.593	20260831173954.593

Table 2: L0 data gaps

3 Instrument modes

Time	Transition from	Transition to
31/08/2026 00:00:08	-	Normal operation
31/08/2026 12:42:32	Normal operation	Auxiliary ASE synchronised
31/08/2026 12:44:24	Auxiliary ASE synchronised	External calibration
31/08/2026 13:06:00	External calibration	Auxiliary ASE synchronised
31/08/2026 13:08:08	Auxiliary ASE synchronised	Normal operation
31/08/2026 14:23:52	Normal operation	Auxiliary ASE synchronised
31/08/2026 14:26:00	Auxiliary ASE synchronised	External calibration
31/08/2026 14:50:48	External calibration	Auxiliary ASE synchronised
31/08/2026 14:52:40	Auxiliary ASE synchronised	Normal operation
31/08/2026 16:05:12	Normal operation	Auxiliary ASE synchronised
31/08/2026 16:07:20	Auxiliary ASE synchronised	External calibration
31/08/2026 16:35:52	External calibration	Auxiliary ASE synchronised
31/08/2026 16:38:00	Auxiliary ASE synchronised	Normal operation
31/08/2026 17:46:48	Normal operation	Auxiliary ASE synchronised
31/08/2026 17:48:40	Auxiliary ASE synchronised	External calibration
31/08/2026 18:22:00	External calibration	Auxiliary ASE synchronised
31/08/2026 19:28:24	Normal operation	Auxiliary ASE synchronised
31/08/2026 19:30:16	Auxiliary ASE synchronised	External calibration
31/08/2026 20:07:04	External calibration	Auxiliary ASE synchronised
31/08/2026 20:09:12	Auxiliary ASE synchronised	Normal operation
31/08/2026 21:12:24	Normal operation	Auxiliary ASE synchronised
31/08/2026 21:14:32	Auxiliary ASE synchronised	External calibration
31/08/2026 21:53:12	External calibration	Auxiliary ASE synchronised
31/08/2026 21:55:20	Auxiliary ASE synchronised	Normal operation
31/08/2026 22:56:24	Normal operation	Auxiliary ASE synchronised
31/08/2026 22:58:32	Auxiliary ASE synchronised	External calibration
31/08/2026 23:42:32	External calibration	Auxiliary ASE synchronised
31/08/2026 23:44:40	Auxiliary ASE synchronised	Normal operation

Table 3: Instrument modes

4 L0 and L1 Data Quality

Flag	Value	Action
L0 IASI PDUs	481	-
L1 ENG PDUs	473	-
L1 ENG distinct GEPSGranule	469	-
GQisFlagQual set (PX1)	97.83 %	-
GQisFlagQual set (PX2)	99.63 %	-
GQisFlagQual set (PX3)	97.71 %	-
GQisFlagQual set (PX4)	98.33 %	-
GQisFlagQual set (all)	98.37 %	-

Table 4: Quality flags

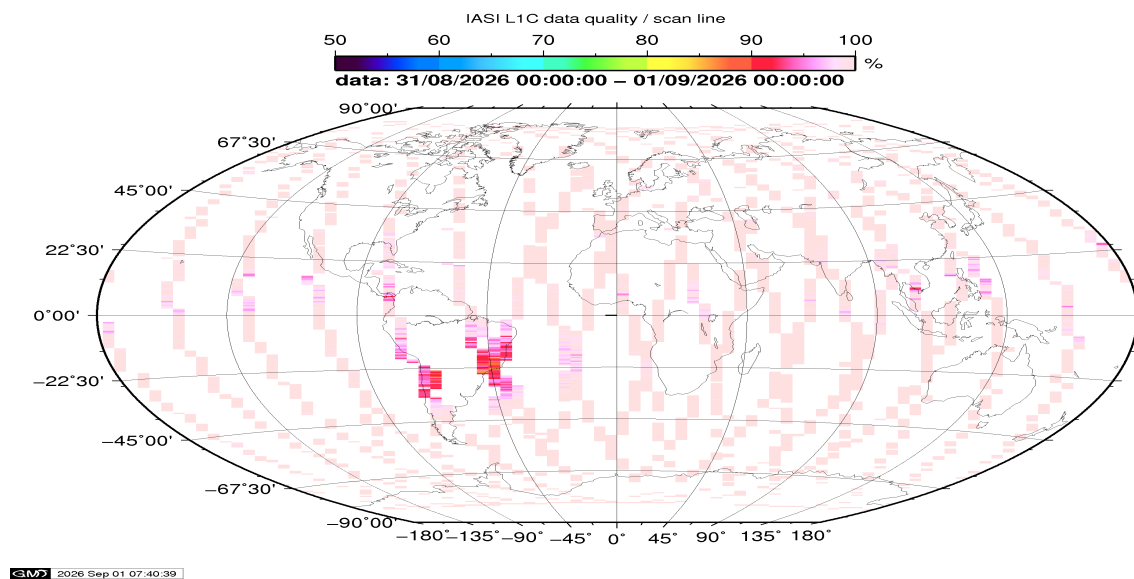


Figure 1: L1C data quality

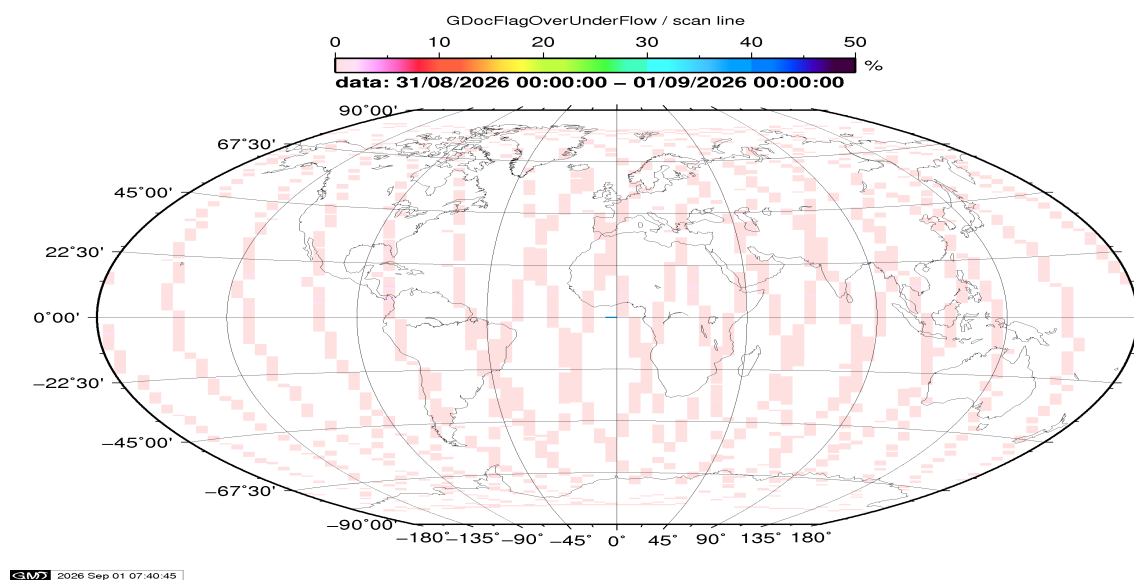


Figure 2: Flag of Over and Under Flows

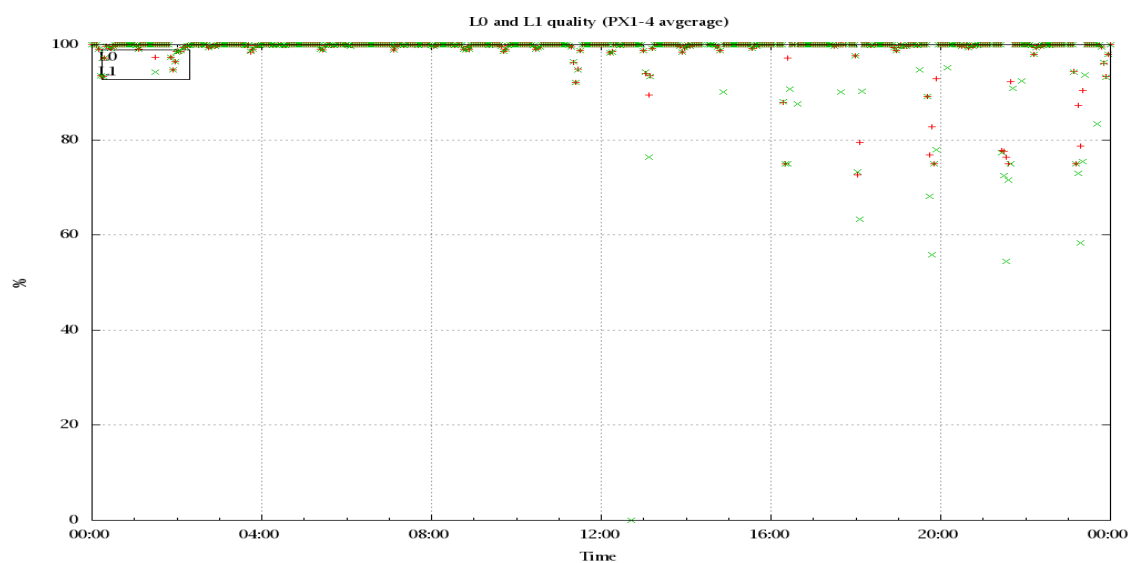


Figure 3: Level 0 and 1C overall quality

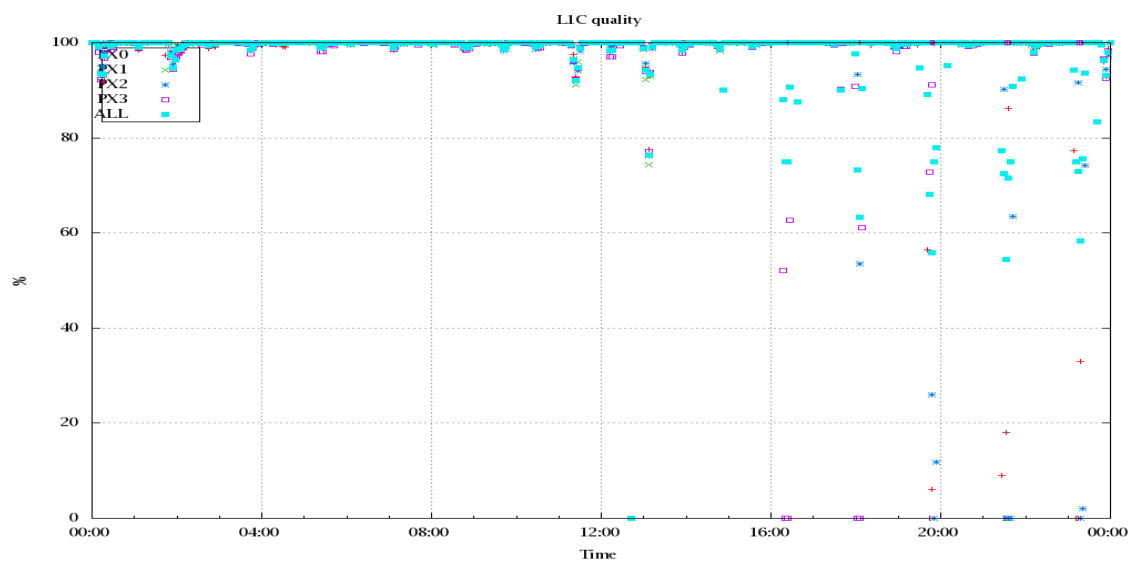


Figure 4: Level 1C quality

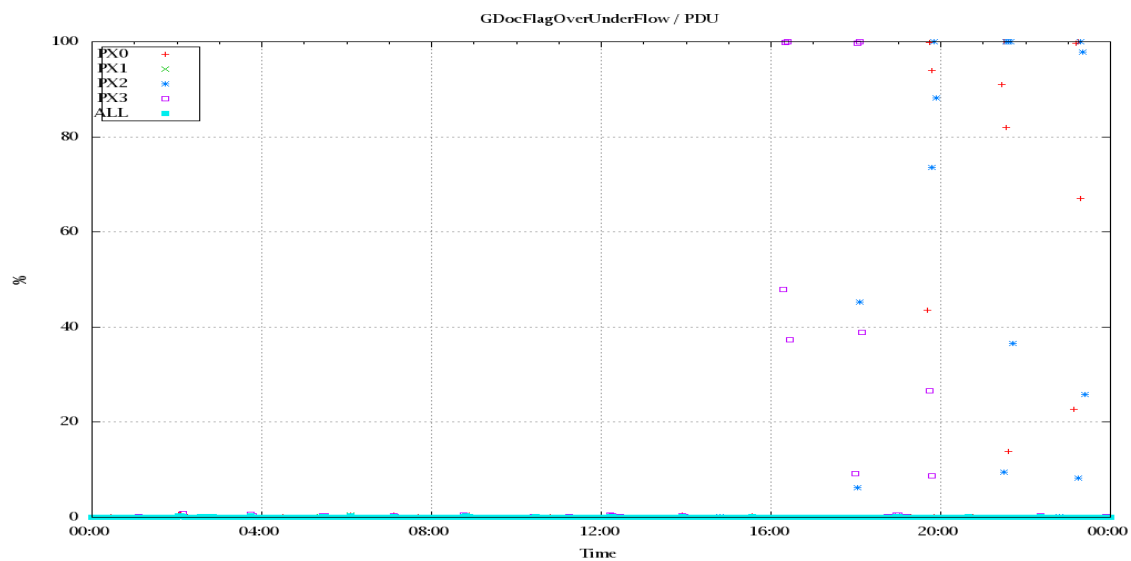


Figure 5: Timeseries of flag of Over and Under Flows

5 Radiance monitoring based on NWP

The radiance monitoring compares the IASI measurements (L1C-eps-products) obtained under clear sky situation over sea with modeled radiances. Cloud identification is based on cloud flag of co-located AVHRR L1B data in addition to information from the IASI L1C clustering analysis here only homogenous situations are taken into account (99.0 percent in first class).

A radiative transfer model (RTM) is feed with co-located ECMWF profiles of T, water vapor and Ozone. Between March 2007 and the 18th of May 2010 RTIASI in Version 4.0 is used. After that date the RTTOV model in V9.3 is used.

Information about the SST is obtained from the AVHRR L1B or taken from AVHRR scenes analysis (CGS only). In the following figures 28 to 34, the so-called radiance anomaly is shown. The radiance anomaly is defined as the difference between the quarter daily radiance average OBS-CAL (over all pixels and scan positions 10 to 20) and the average bias OBS-CAL (over all pixels and scan positions 10 to 20) of the last 30 days.



Figure 6: Average Radiance differences: OBS-CAL



Figure 7: Standard Deviation of Radiance differences



Figure 8: Average Radiance differences: OBS-CAL



Figure 9: Standard Deviation of Radiance differences



Figure 10: Radiance Anomaly in BT: All Channels



Figure 11: Radiance Anomaly in BT: IASI Band 1



Figure 12: Radiance Anomaly in BT: IASI Band 2



Figure 13: Radiance Anomaly in BT: IASI Band 3



Figure 14: Radiance Anomaly in BT: CO2 14



Figure 15: Radiance Anomaly in BT: CO2 4.3



Figure 16: Radiance Anomaly in BT: O3

6 IASI-HIRS radiance comparison Channel 1-19

The radiance comparison of IASI and HIRS/4 on-board Metop is performed on all pixels with distances smaller than 3 km between IASI and HIRS. All sky conditions are covered. The radiance differences IASI - HIRS are given in brightness temperatures at 280K reference NeDT. All conditions (clear, cloudy, day and night) are given in red in the following figures. The clear sky conditions at night are given in green and the clear sky cases during daylight are displayed in blue.



Figure 17: Radiance Differences in BT



Figure 18: Radiance Differences in BT



Figure 19: Radiance Differences in BT



Figure 20: Radiance Differences in BT



Figure 21: Radinace Differences in BT