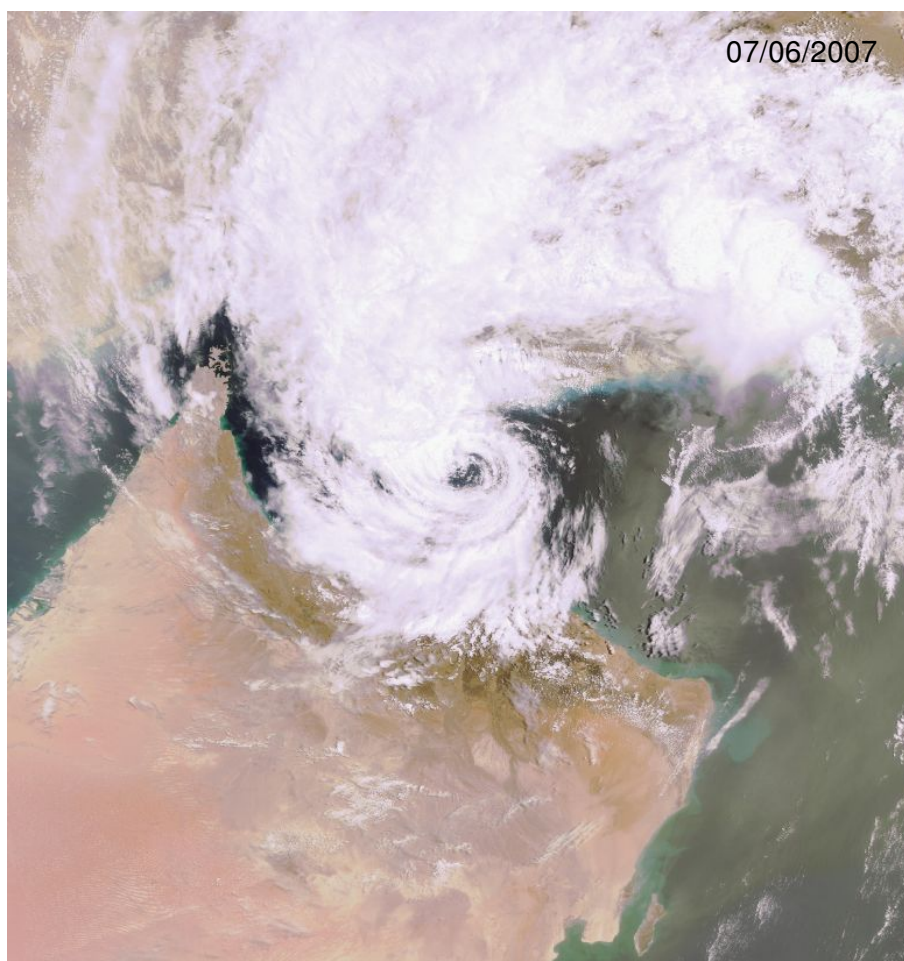




MERIS CYCLIC REPORT 58th
7th May 2007 - 11th June 2007



Super Cyclonic Storm Gonu (the strongest tropical cyclone on record in the Arabian Sea)
 - MERIS reduced resolution scene - Arabian Sea

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1 INTRODUCTION

The MERIS Cyclic Report is distributed by ESRIN- DPQC (Data Processing Quality Control) to keep the MERIS Community informed of any modification regarding the processor, updates of auxiliary products, anomalies of the instrument behaviour, data acquisition and processing, and finally the status of the calibration, validation, and quality control activities. The Cyclic Report collects the inputs coming from different groups involved in MERIS data exploitation:

- ESRIN- Product Control Facility (PCF)
- Quality Working Group (QWG)
- MERIS/AATSR validation team (MAVT)
- Brockmann Consult (BC)
- ACRI-st
- Laboratoire d'Océanographie de Villefranche (LOV)
- Centre National d'Études Spatiales (CNES)
- Frei Universität Berlin (FUB)
- Laboratoire Interdisciplinaire en Sciences de l'Environnement (LISE)

The main objective of the Cyclic Report is to provide the users community with useful information regarding the instrument performances, the data production chain, the results of calibration activities and validation campaigns, at the end of each ENVISAT cycle, which represents 501 orbits, about 35 days.

1.1 Acronyms and abbreviations

ADF	Auxiliary Data File
ADS	Auxiliary Data Server
ARF	Archiving Facility (PDS)
CNES	Centre National d'Études Spatiales
CTI	Configuration Table Interface
CR	Cyclic Report
DAC	Diffuser Ageing Calibration
DMOP	Detailed Mission Operation Plan
DOY	Day Of Year
DS	Data Server
DSD	Data Set Descriptor
EDAC	Error Detection And Correction
FR	Full Resolution

FUB	Freie Universitat Berlin
GS	Ground Segment
IAT	Interactive Analysis Tool
IDL	Interactive Data Language
IECF	Instrument Engineering and Calibration Facilities
IPF	Instrument Processing Facilities (PDS)
INV	Inventory Facilities (PDS)
JRC	Joint Research Centre
LAN	Local Area Network
LISE	Laboratoire Interdisciplinaire en Sciences de l'Environnement
LOV	Laboratoire d'Océanographie de Villefranche-sur-mer
MERIS	Medium Resolution Image Spectrometer
MPH	Main Product Header
OP	Operational Phase of ENVISAT
OCL	Offset Control Loop
PAC	Processing and Archiving Centre (PDS)
PDCC	Payload Data Control Centre (PDS)
PDHS	Payload Data Handling Station (PDS)
PDS	Payload Data Segment
PEP	Payload Exploitation Plan
QC	Quality Control
QWG	Quality Control Working Group
QUARC	Quality Analysis and Reporting Computer
RC	Radiometric Calibration
RGC	Radiometric Gain Calibration
RR	Reduced Resolution
SEU	Single Event Upset
SPH	Specific Product Header
SQADS	Summary Quality ADS
WV1	Wavelength type 1 calibration
WV2	Wavelength type 2 calibration

2 SUMMARY

Cycle #58 starts on the 7th May 2007 and stops on the 11th June 2007 .

- Two radiometric calibrations were planned and have been successfully executed during cycle #58 .
- No any new auxiliary files were disseminated during the reporting period.
- MERIS SDPSS switched unexpectedly into PAUSE mode (known anomaly AR-ENV-841) on doy 129 (Wednesday 09th May 2007) at 16.30.45z, back in measurement Dir&Avg the same day at 16.32.21z. ENVISAT was at Longitude 87.50° W, Latitude 49.69° N, means outside SAA.
- The MERIS SDPSS status words 2 & 3 showed a "DPC4 error" (Digital Processing Chain) for about 42 minutes till the end of Direct & Averaging mode segment of orbit #27106. AR-ENV-823 has been reopened. During the 42 minutes of the anomaly, Camera 4 did not produce any data. Corresponding data have been removed from the catalogue. MERIS was back nominal the following orbit.

Details about the start and stop of the cycle can be found in [Table 1](#).

Cycle number	58
Start time	7 th May 2007 , 21:59:29
Stop time	11 th June 2007 , 21:59:29
Start orbit	27109
Stop orbit	27609

Table 1: Cycle Characteristics

3 PROCESSOR VERSION AND PROCESSING CONFIGURATION

3.1 MERIS Processor Release

The IPF MERIS 5.04 switch was successfully executed on Monday 5th February 2007. The operational version moved from 5.02 to 5.04. This evolution does not correspond to algorithm changes. Improvement mainly concern error handling and minor bugs corrections. The new MERIS V5.04 software switch was performed on all Centre/Stations:

- The first PDHS-K new Meris production started on Orbit 25800
- The first PDHS-E new Meris production started on Orbit 25805

The current MERIS processor configuration is described in [Table 2](#).

IPF Version	Validity	Reference Documents
5.04	8 th May 2006 08:00 UTC Orbit # 21890 →	1. ENVISAT Product Specification [Iss_5_Rev_A] 2. MERIS Input/Output Data Definition [Iss_7_Rev_3a] 3. MERIS Level 1b Detailed Processing Model [Iss_7_Rev_0a] 4. MERIS Level 2b Detailed Processing Model [Iss_7_Rev_2a]

Table 2: MERIS processor parameters - version 5.04

3.2 Auxiliary data files (ADF)

Auxiliary Data Files in use for the cycle #58 are listed [Table 3](#). Note: the other files not included into the list change every time (ECMWF).

Product description	Product name	Comment
Level 1 aux files		
Instrument Characterization Data	MER_INS	No change
Processing Level 1 Control Parameters data	MER_CP1	No change
Radiometric Calibration data	MER_RAC	No change
Digital Roughness Model	MER_DRM	No change
Digital Elevation Model	AUX_DEM	No change
Land Surface Map	AUX_LSM	No change
Attitude data file	AUX_ATT	No change
Level 2 aux files		
Aerosol Climatology data	MER_AER	No change
Atmosphere Parameter data	MER_ATP	No change
Cloud Measurement Parameters data	MER_CMP	No change
Processing Level-2 Control Parameters data	MER_CP2	No change
Land Aerosols Parameters data	MER_LAP	No change
Land Vegetation Index parameters data	MER_LVI	No change
Ocean Aerosols Parameters data	MER_OAP	No change
Ocean I parameters data	MER_OC1	No change
Ocean II parameters data	MER_OC2	No change
Water Vapour Parameters	MER_WVP	No change

Table 3: Auxiliary Data Files in use for the cycle #58

3.3 Level 1/Level 2 Configuration (SciHiO2)

The current operational ADF files, used in the processing from Level 0 data to Level 1b or Level 2 products, are listed in [Table 4](#) and [Table 5](#).

- Level 1 ADF configuration:

Product name	Start Validity
AUX_ATT_AXVIEC20020924_131534_20020703_120000_20781231_235959	03/07/2002
AUX_DEM_AXVIEC20031201_000000_20031201_000000_20200101_000000	01/12/2003
AUX_LSM_AXVIEC20020123_141228_20020101_000000_20200101_000000	01/01/2002
MER_CP1_AXVIEC20050607_065745_20020321_193100_20120321_193100	21/03/2002
MER_DRM_AXVIEC20020122_083343_20020101_000000_20200101_000000	01/01/2002
MER_INS_AXVIEC20050708_134312_20050101_000000_20150101_000000	01/01/2005
MER_RAC_AXVIEC20061009_084736_20061009_220000_20161009_220000	09/10/2006

Table 4: MERIS Level 1 Auxiliary Data Files

- Level 2 ADF configuration:

Product name	Start Validity
MER_AER_AXVIEC20040407_174356_20020321_193100_20120321_193100	21/03/2002
MER_ATP_AXVIEC20050628_123340_20021224_121445_20121224_121445	24/12/2002
MER_CMP_AXVIEC20040407_180835_20021224_121445_20121224_121445	24/12/2002
MER_CP2_AXVIEC20050704_065814_20021224_121445_20121224_121445	24/12/2002
MER_LAP_AXVIEC20050628_124246_20020321_193100_20120321_193100	21/03/2002
MER_LVI_AXVIEC20050704_145357_20020321_193100_20120321_193100	21/03/2002
MER_OAP_AXVIEC20050704_145633_20020321_193100_20120321_193100	21/03/2002
MER_OC1_AXVIEC20050704_145802_20020321_193100_20120321_193100	21/03/2002
MER_OC2_AXVIEC20050628_123950_20020321_193100_20120321_193100	21/03/2002
MER_SCM_AXVIEC20030620_120000_20020321_193100_20110725_103844	21/03/2002
MER_WVP_AXVIEC20040407_181941_20020321_193100_20120321_193100	21/03/2002

Table 5: MERIS Level 2 Auxiliary Data Files

3.4 Configuration Table Interface (CTI)

No any new CTI was disseminated during cycle#58 .

3.5 Level 1 / Level 2 RR or FR products

During cycle #58 neither format changes nor algorithm modifications regarding MERIS RR and FR products were implemented into the operational processor.

REMINDER:

In the middle of cycle #47, some format changes or algorithm modifications regarding MERIS

RR and FR products were implemented during the operational processor upgrade from v4.10 to 5.02. The data changes decided within the Data Quality Working Group are listed below:

- ▷ New Chlorophyll 1 polynomial characterisation from LOV (Laboratoire d'Océanologie de Villefranche - France)
- ▷ Chlorophyll 1 validity range set to [0.01, 30], no PCD raise when out of range
- ▷ Troposphere-free MAR99 replaces BLUE – ≤ 1.5 (from previous BOMEM runs)
- ▷ Gothic R Look Up Table from LOV (Laboratoire d'Océanologie de Villefranche - France)
- ▷ Chlorophyll 2 conversion factors from GKSS (revised with latest Neural Network delivery)
- ▷ Yellow Substance coding offset and scaling factor changes (linear to log scale, same range)
- ▷ Chlorophyll coding range changes ($[-2,2]$ in \log_{10} scale instead of $[-3,3]$ previously)
- ▷ Whitecaps threshold set to 10 m.s^{-1}
- ▷ New Case 2 Neural Network from GKSS (with and without linear reflectances as input)
- ▷ White scatterer threshold set to 4.8
- ▷ MTCI threshold on B13-B8 difference set to 0.05, on B10-B8 to $1e^{-6}$ (numerical purpose only), ceiling for B8 set to 0.3, floor for B9 to 0.1
- ▷ Preliminary version of LARS Look Up Tables from Hygeos

For further details concerning the changes, please refer to the documentation available at: http://earth.esa.int/pcs/envisat/meris/documentation/MERIS_IPF_evolution.pdf

4 PDS STATUS

The statistics resulting from the query to the PDS inventory facility (INV) for the MERIS products availability are presented in the following paragraphs.

4.1 MERIS Level 0 products availability

Table 6 shows the statistics regarding the RR L0 availability (compared to the planned production). Cycle #58 is composed of 5 weeks. Week 1 starts the 7th May 2007 at 21:59:29 (orbit 27109). Week 5 ends the 11th June 2007 at 21:59:29 (orbit 27609).

Week	MER_RR_0P %	
	Inventoried	Missing
Week 1	97.958697	2.041303
Week 2	96.675487	3.324513
Week 3	97.079472	1.674921
Week 4	100.000000	0
Week 5	100.000000	0

Table 6: Reduced Resolution Level 0 products availability

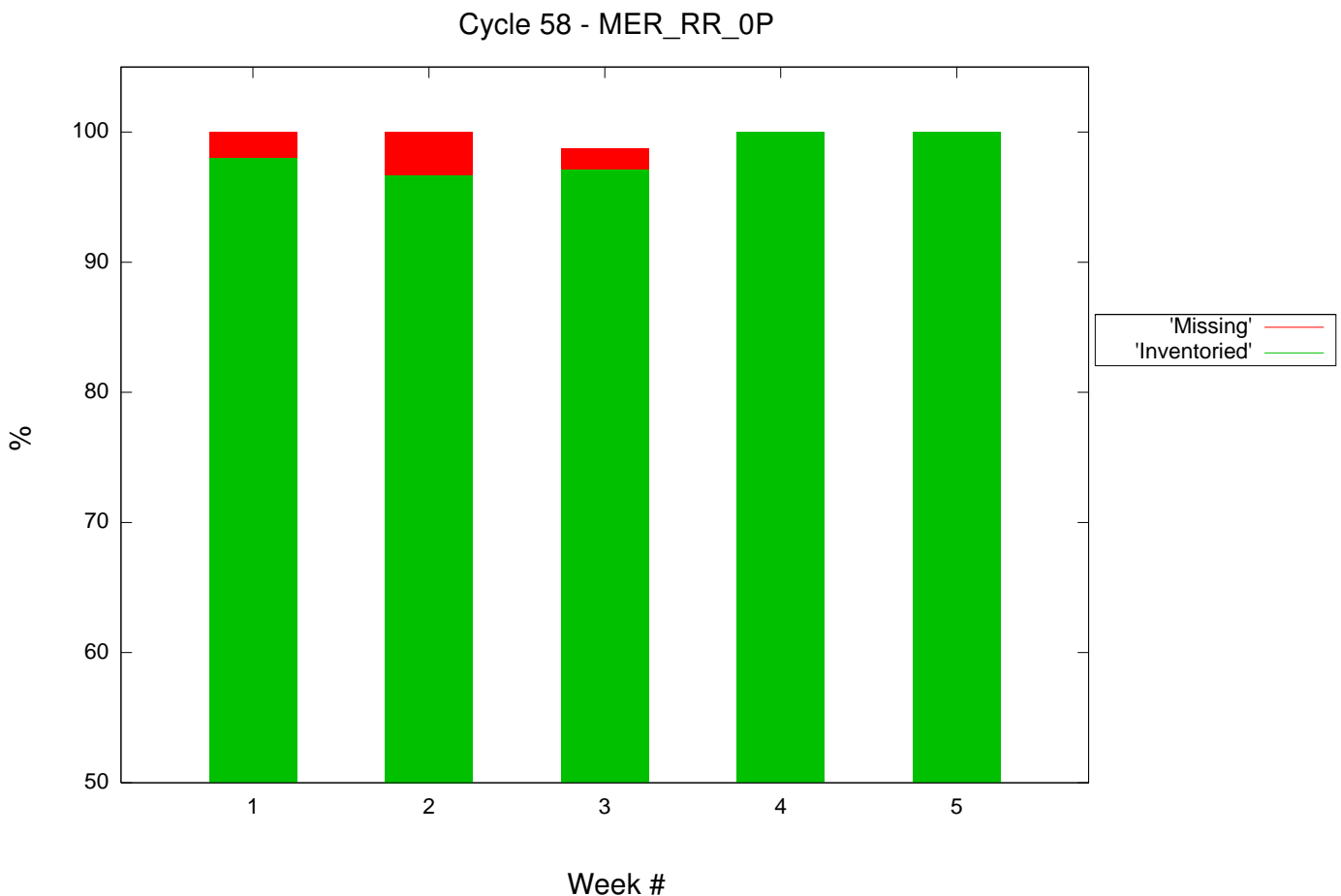


Figure 1: MER_RR_0P generated/missing by the ground segment during cycle #58

Table 7 shows the statistics regarding the FR L0 availability (compared to the planned production). Cycle #58 is composed of 5 weeks. Week 1 starts the 7th May 2007 at 21:59:29 (orbit 27109). Week 5 ends the 11th June 2007 at 21:59:29 (orbit 27609).

Week	MER_RR_0P %	
	Inventoried	Missing
Week 1	90.968862	9.031138
Week 2	88.378619	11.621381
Week 3	91.478964	7.519249
Week 4	92.126235	7.873765
Week 5	92.699955	7.300045

Table 7: Full Resolution Level 0 products availability

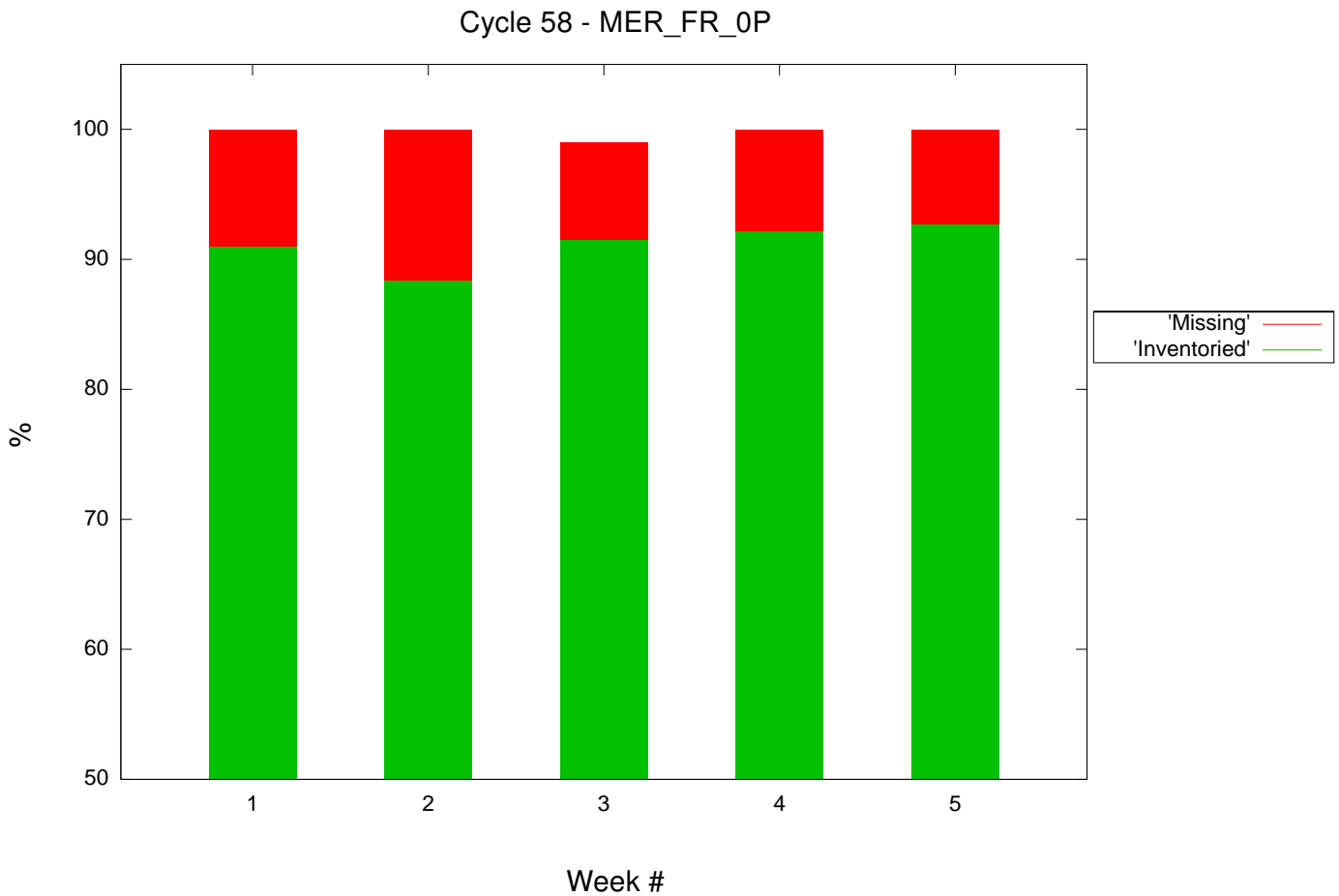


Figure 2: MER_FR_0P generated/missing by the ground segment during cycle #58

4.2 MERIS FR acquisitions

The pictures below ([Figure 3](#), [Figure 4](#), [Figure 5](#), [Figure 6](#), [Figure 7](#), [Figure 8](#) and [Figure 9](#)) show the MERIS Full Resolution global coverage for the reporting period. As specified for this type of MERIS products, all lands and coastal areas are covered by MERIS FR acquisitions.

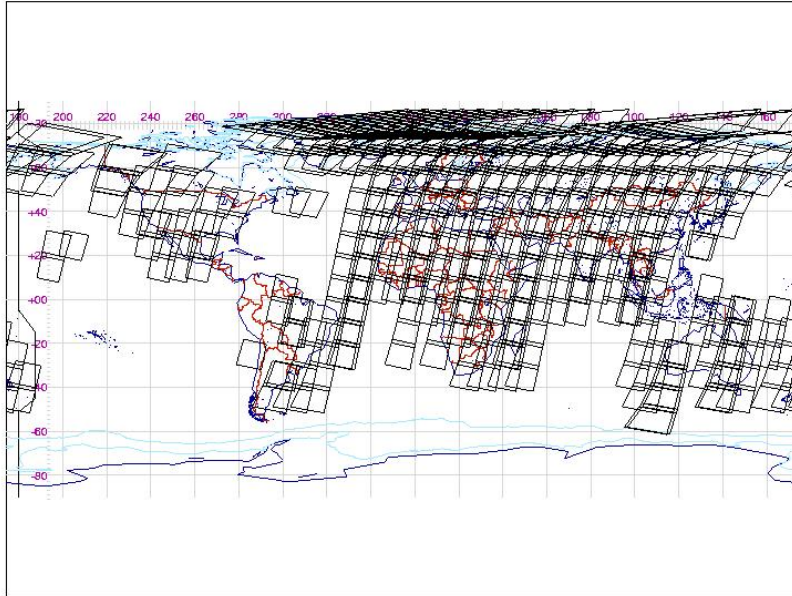


Figure 3: MERIS Full Resolution Level 0 acquisitions - Part #1 - 08/05/2007 - 12/05/2007

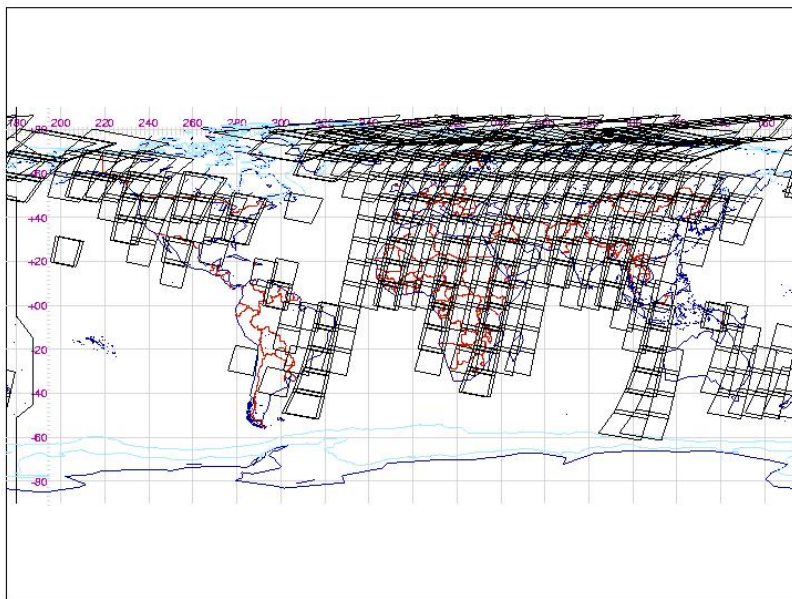


Figure 4: MERIS Full Resolution Level 0 acquisitions - Part #2 - 13/05/2007 - 17/05/2007

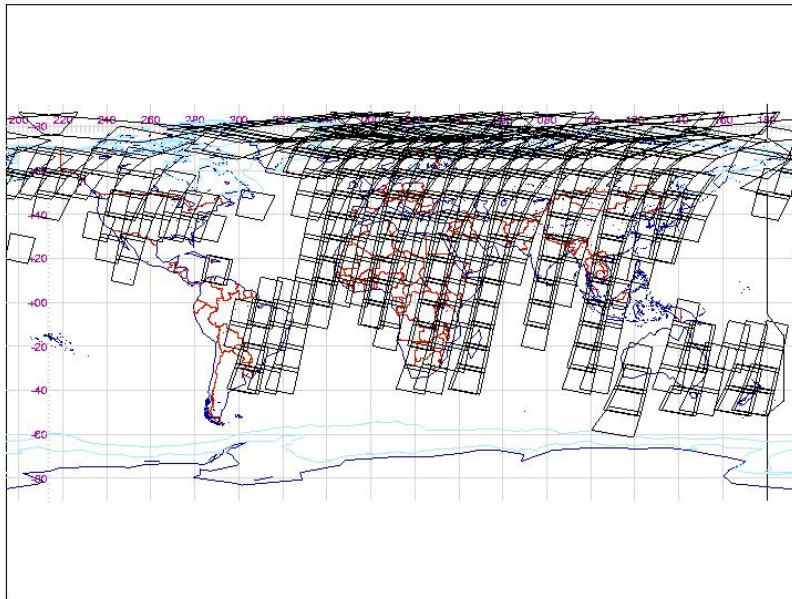


Figure 5: MERIS Full Resolution Level 0 acquisitions - Part #3 - 18/05/2007 - 22/05/2007

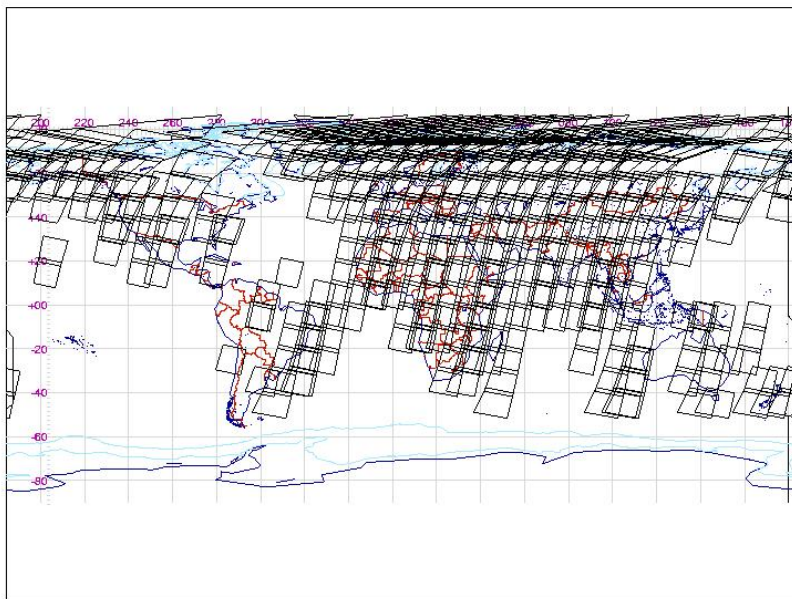


Figure 6: MERIS Full Resolution Level 0 acquisitions - Part #4 - 23/05/2007 - 27/05/2007

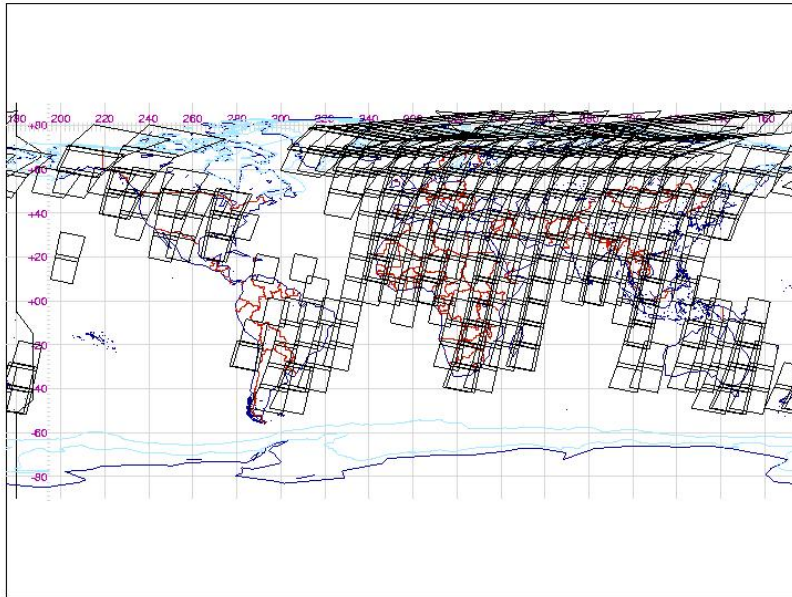


Figure 7: MERIS Full Resolution Level 0 acquisitions - Part #5 - 28/05/2007 - 01/06/2007

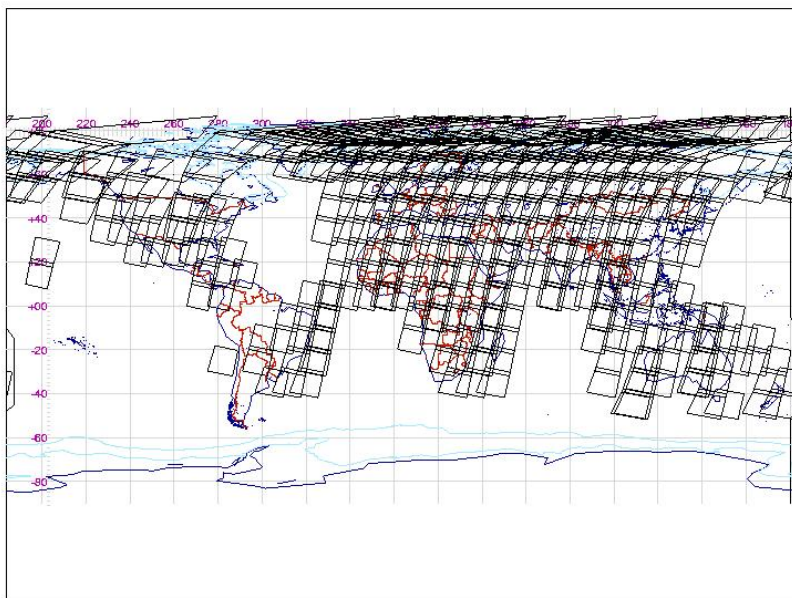


Figure 8: MERIS Full Resolution Level 0 acquisitions - Part #6 - 02/06/2007 - 06/06/2007

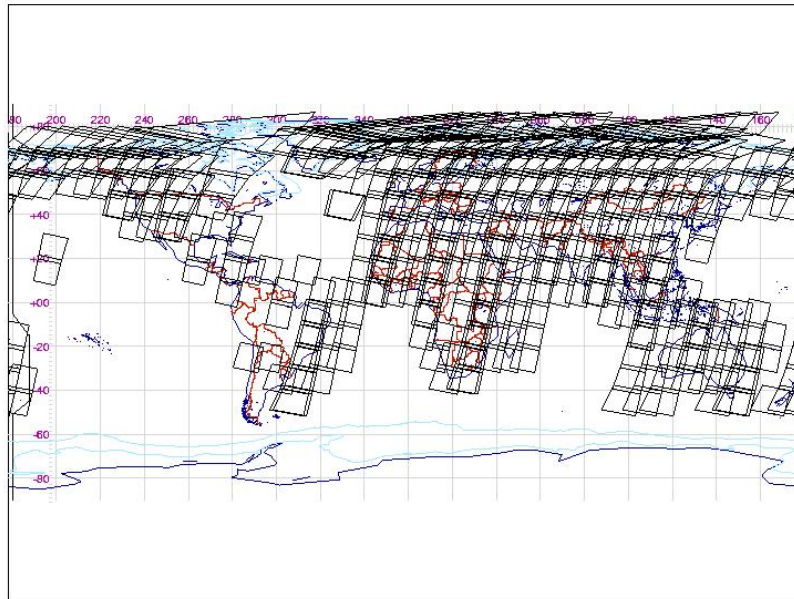


Figure 9: MERIS Full Resolution Level 0 acquisitions - Part #7 - 07/06/2007 - 11/06/2007

4.3 MER_CA__0P Products

During the Cycle #58 , the following calibration campaigns were successfully executed:

- ▷ Radiometric Calibration have been successfully executed on doy 138 (Friday the 18th of May 2007) at 12.15.20z during orbit #27260.
- ▷ Radiometric Calibration has been executed successfully on doy 152 (Friday 1st of June) during orbit #27460 at 11.34.22z.

The list of corresponding available calibration files is reported in [Table 8](#)¹.

MER_CA__0PNPDK20070518_121600_000001762058_00152_27260_0061.N1	SciHiO2 diffuser 1	Bad format
MER_CA__0PNPDK20070601_113501_000001782058_00352_27460_0065.N1	SciHiO2 diffuser 1	Format OK

Table 8: Available calibration files

¹In [Table 8](#), the "*Format OK*" means that the corresponding calibration file is available and has got the required structure, whereas "*Bad format*" means that the calibration file is available but some calibration data are either missing or not well organised.

5 INSTRUMENT/DATA UNAVAILABILITY

5.1 Instrument Unavailability

MERIS SDPSS switched unexpectedly into PAUSE mode (known anomaly AR-ENV-841) on doy 129 (Wednesday 09th May 2007) at 16.30.45z, back in measurement Dir&Avg the same day at 16.32.21z. ENVISAT was at Longitude 87.50° W, Latitude 49.69° N, means outside SAA.

In the reporting period, 58 EDAC-corrected SEU occurred. Dates, times and geolocation of these events are given in the listing page [15](#).

Date/Time year.day.hr.mn.sc	Lon.	Lat.
2007.128.00.42.30	131.4426° E	42.7811° S
2007.128.02.51.53	67.2178° W	33.7238° S
2007.132.11.51.21	29.2146° W	9.2844° S
2007.132.11.58.05	35.1025° W	33.1481° S
2007.132.22.39.20	7.9885° W	11.9944° S
2007.134.12.32.17	41.4927° W	21.9599° S
2007.134.14.12.24	66.2276° W	20.2499° S
2007.135.13.43.31	60.7819° W	29.9247° S
2007.136.11.52.23	179.7473° W	72.5055° S
2007.136.13.10.06	51.2278° W	23.5520° S
2007.138.02.38.29	64.5721° W	30.3193° S
2007.138.22.28.47	88.5765° E	81.4549° S
2007.139.02.07.23	57.1569° W	28.5007° S
2007.139.11.34.44	27.0618° W	21.7026° S
2007.139.13.13.37	50.7660° W	15.6136° S
2007.140.01.39.29	52.4888° W	15.3346° S
2007.140.12.43.59	44.5389° W	22.6433° S
2007.140.13.46.19	105.2409° E	64.4364° N
2007.141.01.02.22	39.5928° W	34.8109° S
2007.141.12.12.41	36.9115° W	23.7562° S
2007.142.11.38.48	27.0773° W	15.7045° S
2007.142.13.19.43	52.4896° W	16.8326° S
2007.143.00.04.07	28.3451° W	17.1989° S
2007.143.00.08.44	32.0352° W	0.7782° S
2007.143.01.44.40	53.4541° W	17.3730° S
2007.143.21.53.58	3.0302° E	9.8689° S
2007.145.15.07.23	80.1864° W	21.4739° S
2007.147.01.18.28	46.7011° W	18.6062° S
2007.147.02.55.18	68.4472° W	31.9373° S
2007.148.00.45.03	37.2340° W	25.0036° S
...

Date/Time year.day.hr.mn.sc	Lon.	Lat.
2007.148.11.52.23	31.7074° W	23.0190° S
2007.148.13.34.50	58.5437° W	29.5680° S
2007.148.15.14.02	82.4064° W	24.6190° S
2007.149.01.53.29	53.9789° W	26.9641° S
2007.150.03.33.16	134.4286° W	79.1322° N
2007.150.12.29.19	40.6669° W	21.4496° S
2007.151.11.55.04	30.5708° W	12.0801° S
2007.152.02.03.36	59.1241° W	11.5239° S
2007.152.12.30.07	119.6778° E	68.9214° N
2007.153.01.28.33	48.3397° W	23.7339° S
2007.153.07.10.30	56.8550° E	59.0756° N
2007.153.14.14.18	66.0914° W	16.5432° S
2007.153.14.18.07	69.4646° W	30.0632° S
2007.154.00.57.03	40.5348° W	23.3422° S
2007.154.13.44.57	60.1262° W	24.5585° S
2007.154.19.15.54	51.5210° E	50.5496° S
2007.155.02.06.30	58.1845° W	21.7081° S
2007.155.11.27.26	22.6865° W	5.7096° S
2007.155.11.27.48	22.9757° W	7.0143° S
2007.155.14.49.50	73.9381° W	9.9835° S
2007.156.03.14.20	74.4101° W	25.8040° S
2007.156.03.15.32	75.4702° W	21.5521° S
2007.157.09.03.43	19.9066° W	75.0338° S
2007.157.13.47.30	58.8461° W	13.1319° S
2007.159.12.47.40	45.9124° W	25.1387° S
2007.161.00.36.58	35.5059° W	23.3992° S
2007.161.00.41.21	39.1332° W	7.8278° S
2007.161.15.02.58	78.1118° W	15.6266° S

EDAC-corrected SEU

5.2 Data Unavailability

The MERIS SDPSS status words 2 & 3 showed a "DPC4 error" (Digital Processing Chain) for about 42 minutes till the end of Direct & Averaging mode segment of orbit #27106. AR-ENV-823 has been reopened. During the 42 minutes of the anomaly, Camera 4 did not produce any data. Corresponding data have been removed from the catalogue. MERIS was back nominal the following orbit.

6 CALIBRATION AND INSTRUMENT CHARACTERISATION

6.1 Calibration

6.1.1 Radiometric calibration

Cycle #58 , potential radiometric calibrations are detailed in [subsection 4.3](#) page 13.

6.1.2 Spectral calibration

Cycle #58 , potential spectral calibrations (Wavelength Type 1 or 2) are detailed in [subsection 4.3](#) page 13.

6.1.3 Geolocation

The accuracy specification for MERIS geolocation is 2000 m, with an operational goal of 150 m. The 290 m (nadir) bands 2, 5, 8 are used to estimate the absolute geolocation accuracy. This analysis shows significant improvements since launch, with one major upgrade, which occurred in 2003 DOY (Day of Year) 343. The update of the star tracker has been performed to reduce the systematic offset and improve orientation parameters. Global absolute geolocation error (North and South hemispheres) for the three consecutive periods can be summarized as follow:

- (I) Initially, after the launch, according to results related to the 2002 period, the geolocation accuracy is in the order of ± 135 metres along-track and ± 207 metres across-track. The RMS absolute geolocation error stays within the range of 251.24 ± 81 m.
- (II) The 2003 period is characterised by a degradation of the absolute geolocation accuracy where error is around ± 209 metres along-track and ± 295 metres across-track. For this period, the RMS absolute geolocation error stays within the range of 368.39 ± 67 m.
- (III) After the update, 2004 period, MERIS geolocation is achieving the goal of 300 m with accuracy of ± 132 m along-track and ± 165 m across-track. The RMS absolute geolocation error remains within the range of 212 ± 22 m.

When correcting products from the systematic offset (centred results), for 2004 period the RMS absolute geolocation error stays within the range of 166 ± 18 m. The amount of products located on northern hemisphere is much larger than the one from the Southern hemisphere. Comparison between the two sets of results is not trivial. For the 2004 period, this study demonstrated the temporal stability of the absolute geolocation. More results are now needed to confirm this trend. For more details, refer to the Gael Consultant (Fr) report available on the ESA website: <http://earth.esa.int/pcs/envisat/meris/reports/>

6.1.4 VEU Temperature Analysis

During one of the operation modes of MERIS, Stabilization mode, a thermal regulation of VEU (Video Electronic Unit) unit is performed in order to stabilise its temperature to reach full performances and insure a safe transition towards Observation and Calibration modes. During observation, the VEU Temperature has to remain in the operational acceptance temperature

range $-10^{\circ}/+50^{\circ}$ in order to meet the image quality requirements. The VEU temperature should be maximum $\pm 10^{\circ}\text{C}$ different from the last radiometric calibration for optimum performance.

On day 141 (21st of May 2007) 2 consecutive Heater/Stabilisation commands were missing due to a commanding problem (AR-ENV-1024). This means that MERIS stayed in Measurement mode during 2,5 orbits (normally 0,5 orbit) starting orbit #27282. The "VEU temperature" reached 38°C as can be seen in Figure 10, it nevertheless remained in the accepted ranges to maintain data quality (i.e. within $[-10^{\circ}\text{C},+50^{\circ}\text{C}]$ and within $[-10^{\circ}\text{C},+10^{\circ}\text{C}]$ from the temperature of radiometric calibrations (around 30°C).

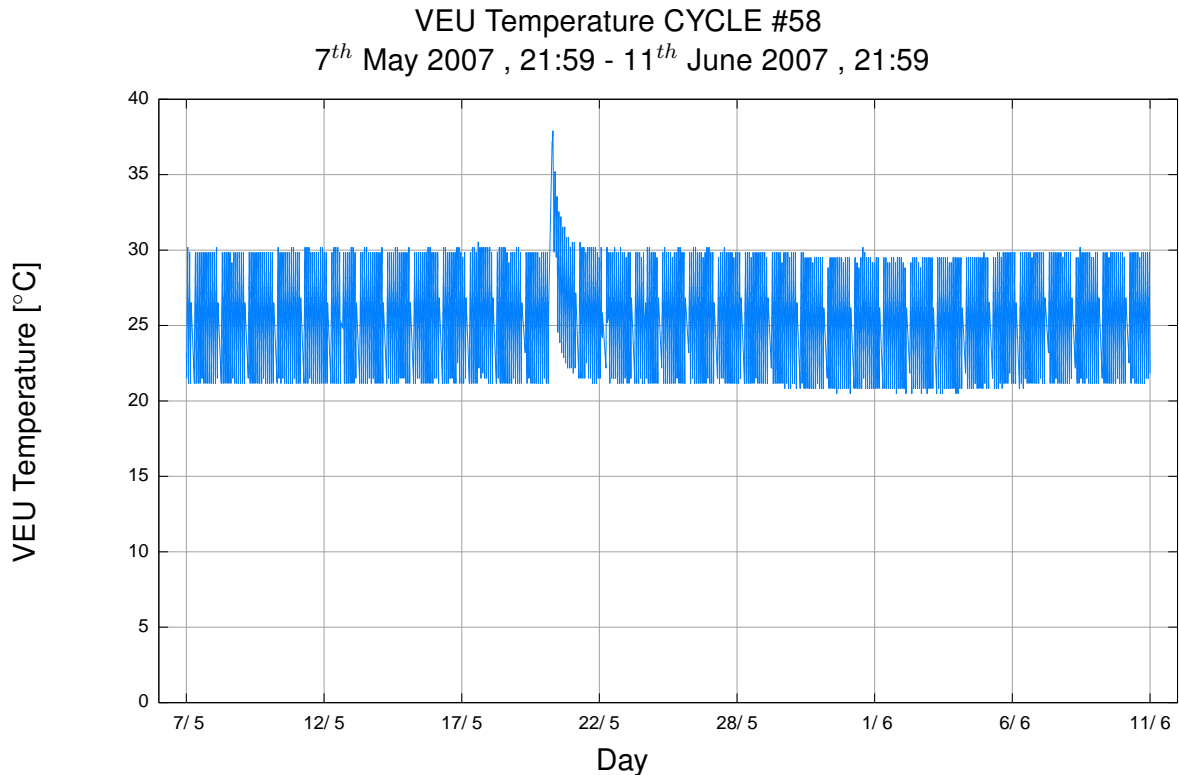


Figure 10: VEU Temperature during cycle #58

6.1.5 Vicarious calibration results

For absolute calibration of MERIS by vicarious methods, METRIC2.0 tools are used to perform data extraction and spatial compression from MERIS Level1b products over specified sites following site type specific radiometric and geographic criteria. The child L1b products are ordered systematically on the basis of sites definition and mission analysis. Because the list of sites can be over-dimensioned and vary with season, it has a validity period of 3 months. Each L1b child product is submitted to METRIC with the correct version of auxiliary files MER_INS_AX and MER_CP1_AX used during its generation, and a dedicated resource file which stores all parameters necessary for data filtering (cloud and aerosol screening, distance from coast. . .). Metric generates one file for each selected site pertaining to the following categories, according to the potential use of the data in the calibration processing: Rayleigh, Glitter, Desert, Snow, and Buoy. Output files have HDF format. During cycle #24 new overpass tables have been regenerated for all sites of interest updating the relative orbits inside the cycle. The site map is shown in [Figure 11](#).

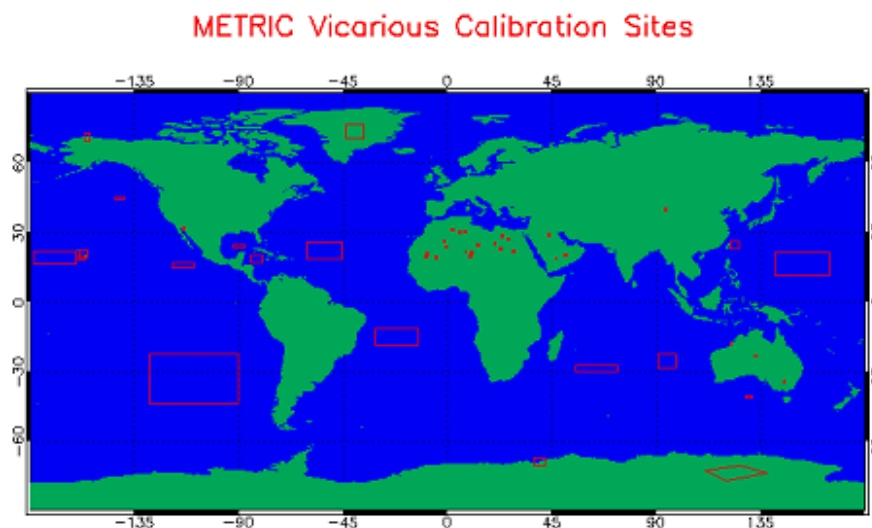


Figure 11: METRIC calibration site map

During the cycle Metric has generated for specific sites the results presented [Table 10](#).

Latest results from these methods were presented at:

Second working meeting on MERIS and AATSR

Calibration and Geophysical Validation

MAVT-2006 ESRIN, Frascati, Italy

20-24 March 2006

Sites	# Number of metric output	# Submitted child L1b
DESERT	1054	397
GLITTER	134	134
RAYLEIGH	208	157
SNOW	379	370
BUOY	19	19

Table 10: Specific sites results

Corresponding presentations can be found at:

http://envisat.esa.int/workshops/mavt_2006/MAVT-2006-0303_CTinel.pdf

http://envisat.esa.int/workshops/mavt_2006/MAVT-2006-0304_CTinel.pdf

Note: in the same Workshop, other results of vicarious calibration for MERIS, not based on METRIC extraction, were also presented.

6.2 Instrument Characterization

6.2.1 Instrument degradation

No new results to be shown for cycle #58 . For the last updates, refer to Cyclic Report #45 that can be found on the above-mentioned MERIS website (see [subsection 6.1.3](#) page 16).

6.2.2 Diffuser ageing

No new results to be shown for cycle #58 . For the last updates, refer to Cyclic Report #45 that can be found on the above-mentioned MERIS website.

6.2.3 Smile Effect

No new results to be shown for cycle #58 . For the last updates, refer to Cyclic Report #23 that can be found on the above-mentioned MERIS website.

6.2.4 Spectral evolution from erbium measurements

Analysis of the complete set of spectral calibration data from the Erbium doped diffuser confirms:

1. stability of the absolute wavelength for cameras 1, 3 and 5.
2. slight increase over time of the wavelength observed by a given CCD row for camera 2 and 4 (about 0.15 nm for camera 2 and 0.20 for camera 4). The curve trend seems however to go towards stabilisation.

On can see in [Figure 12](#) the evolution of the spectral calibration of MERIS around 408 nm and 520 nm with respect to orbit 650.

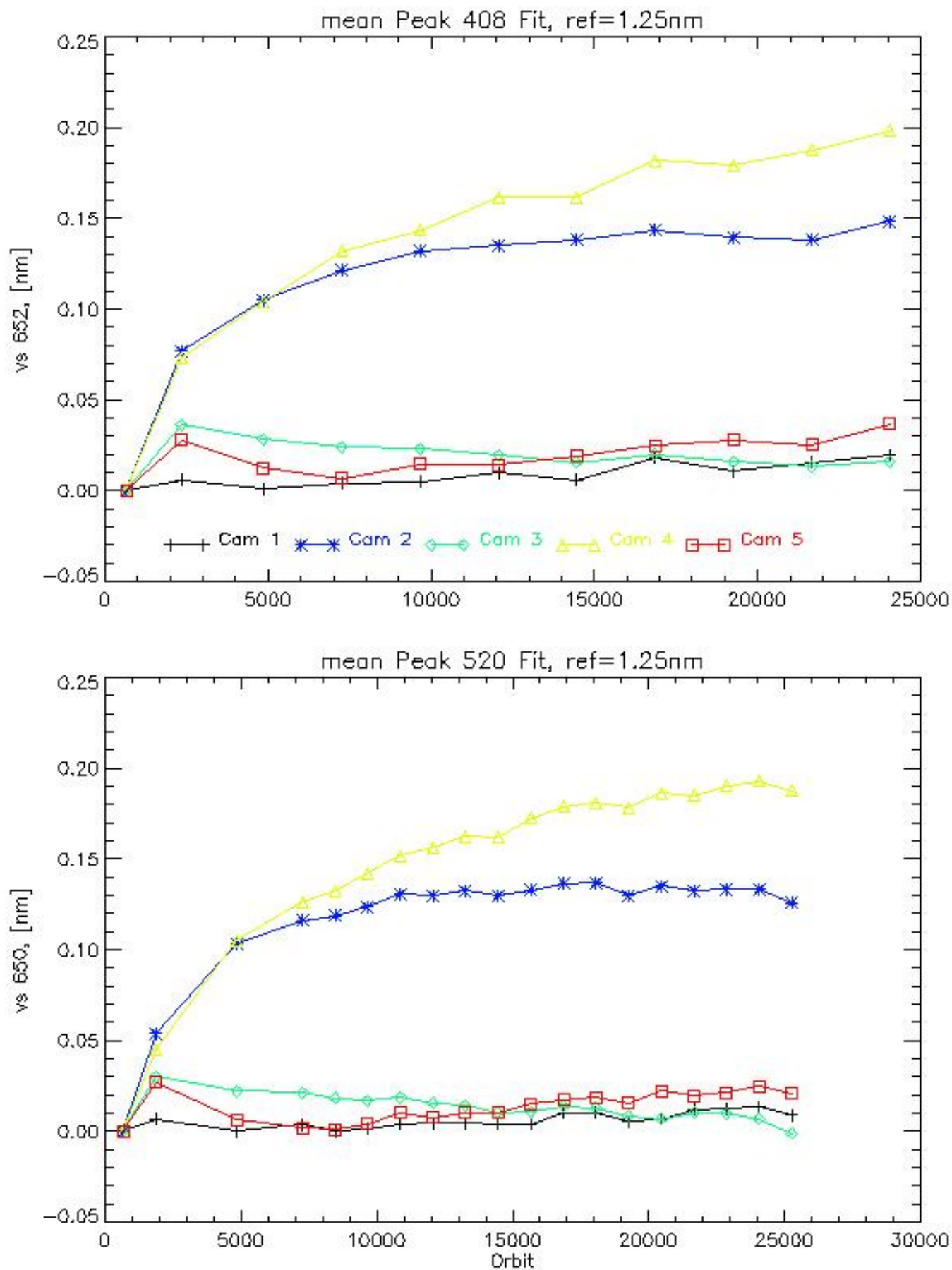


Figure 12: Evolution of the spectral calibration of MERIS around 408 nm (top) and 520 nm (bottom) with respect to orbit 650

7 DATA QUALITY CONTROL

7.1 MERIS products quality status

IPF version 5.04 did not have any impact on the MERIS products quality; an increase of the Level 2 processing time has been reported - it is linked to the increase of the number of pixels taken into account for the retrieval of aerosols over land, and the more detailed aerosols Look Up Table.

7.2 Anomalies and Software Problem Reporting (SPR)

Blank records have been identified in some MERIS products rejected by visual inspections using the AMALFI system. These black lines crossing the track are a nominal behavior of the processor, which replaces missing or corrupted Instrument Source Packets (ISPs) with blank data to preserve the geographical consistency of the scene.

8 FIRST 2003 MERIS ARCHIVE REPROCESSING

Information concerning the 1st reprocessing of the 2003 MERIS data archive done spring 2004 can be found on the MERIS website:

http://earth.esa.int/pcs/envisat/meris/documentation/First_2003_MERIS_Reprocessing.pdf

The document explains also how to get the reprocessed data.

9 SECOND 2005 MERIS ARCHIVE REPROCESSING

Following the recommendations of the Data Quality Working Group and the Science Advisory Group, improvements to MERIS processing resulted in version 7.4 of the off-line processor MEGS. It is currently being used for a complete reprocessing of the MERIS Reduced Resolution data archive. The corresponding time period extends from June 2002 to June 2005. 2003 and 2004 data will be made available through the MERCI (MERIS Catalogue and Inventory) service by the end of year 2005. For further information see: <http://envisat.esa.int/services/catalogues.html>

10 MERIS PROCESSOR EVOLUTION

A detailed description of the MERIS IPF evolution since March 2002 until present, in terms of data format changes and algorithm modifications, can be found on the MERIS website: http://earth.esa.int/pcs/envisat/meris/documentation/MERIS_IPF_evolution.pdf

11 VALIDATION ACTIVITIES AND RESULTS

Presentations given at the MAVT-2006 yield at ESRIN premises, Frascati, Italy, from 20 to 24 March 2006 are now available at the following address: http://envisat.esa.int/workshops/mavt_2006/

12 WATER VAPOUR AND BROWSE MAPS

Water Vapour data, retrieved from MER_LRC_2P products, have been used to generate global coverage maps for each day of the cycle. Maps are available on the ESA website: <http://earth.esa.int/pcs/envisat/meris/maps/watervapour/>.

MERIS tracks for each day of the cycle have been plotted using Browse products. Maps are available on the ESA website: <http://earth.esa.int/pcs/envisat/meris/maps/browse/>

13 HOW TO GET MERIS DATA

Information concerning the different ways to access the MERIS data can be found on the MERIS website:

http://earth.esa.int/pcs/envisat/meris/documentation/Access_to_MERIS_data.pdf

14 GENERAL INFORMATION

1. The European Space Agency organised a joint MERIS and (A)ATSR workshop, held at ESRIN, Frascati, Italy, on 26-30 September 2005. All information about the objectives of the workshop as well as the participants' presentations can be found on ESA's official page: http://envisat.esa.int/workshops/meris_aatsr2005/
2. The European Space Agency organised the second working meeting on MERIS and AATSR Calibration and Geophysical Validation (MAVT-2006) in ESRIN, Frascati, Italy, from 20 to 24 March 2006. All information about the objectives of the workshop as well as the participants' presentations can be found on ESA's official pages: <http://www.congrex.nl/06M07>
3. The last ENVISAT Symposium took place in Montreux Switzerland. The 2007 ESA ENVISAT Symposium followed the previous successful Symposia in Salzburg (2004), Gothenburg (2000), Florence (1997), Hamburg (1993) and Cannes (1992). The main objective of the ENVISAT Symposium was to present the results of the ESA EO missions in exploitation by:
 - providing a forum for investigators to present results of on-going research project activities using ENVISAT, ERS and ESA Third Party missions data
 - reviewing the development of applications and services
 - presenting the Global Monitoring for Environment and Security Service Element (GSE)
 - presenting the use of EO in support of International Environmental Conventions

In addition, the Symposium provided an opportunity to present future ESA and national EO missions. www.envisat07.org