



MERIS CYCLIC REPORT 53RD

13TH NOVEMBER 2006 – 18TH DECEMBER 2006



Northern Sri Lanka – MERIS full resolution scene -
Mannar Island and Delft Island

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Table Of Contents

1	INTRODUCTION.....	1
1.1	Acronyms and abbreviations.....	1
2	SUMMARY	3
3	PROCESSOR VERSION AND PROCESSING CONFIGURATION	3
3.1	MERIS Processor Release	3
3.2	Auxiliary data files (ADF)	4
3.3	Level 1/Level 2 Configuration (SciHiO2)	5
3.4	Configuration Table Interface (CTI).....	5
3.5	Level 1/ Level 2 RR or FR products	6
4	PDS STATUS.....	7
4.1	MERIS Level 0 products availability.....	7
4.2	MERIS FR acquisitions	9
4.3	MER_CA__0P Products	16
5	INSTRUMENT/DATA UNAVAILABILITY.....	16
5.1	Instrument Unavailability	16
5.2	Data Unavailability	17
6	CALIBRATION AND INSTRUMENT CHARACTERIZATION	18
6.1	Calibration.....	18
6.1.1	Radiometric calibration.....	18
6.1.2	Spectral calibration	18
6.1.3	Geolocation	19
6.1.4	VEU Temperature Analysis.....	19
6.1.5	Vicarious calibration results.....	20
6.2	Instrument Characterization	22
6.2.1	Instrument degradation	22
6.2.2	Diffuser ageing.....	22
6.2.3	Smile Effect.....	22
6.2.4	Spectral evolution from erbium measurements	22
7	DATA QUALITY CONTROL	22
7.1	MERIS products quality status	22
7.2	Anomalies and Software Problem Reporting (SPR).....	22
8	FIRST 2003 MERIS ARCHIVE REPROCESSING	23

9	SECOND 2005 MERIS ARCHIVE REPROCESSING	23
10	MERIS PROCESSOR EVOLUTION.....	23
11	VALIDATION ACTIVITIES AND RESULTS	23
12	WATER VAPOUR AND BROWSE MAPS.....	23
13	HOW TO GET MERIS DATA.....	24
14	GENERAL INFORMATION.....	24

T A B L E O F I L L U S T R A T I O N S

Table 1 – Cycle Characteristics	3
Table 2 – MERIS processor parameters – version 5.02.....	4
Table 3 – Auxiliary Data Files in use for the cycle #52	4
Table 4 – MERIS Level 1 Auxiliary Data Files.....	5
Table 5 – MERIS Level 1 Auxiliary Data Files.....	5
Table 6 – Reduced Resolution Level 0 products availability	7
Figure 1 - MER_RR__0P generated/missing by the ground segment during cycle #52	7
Table 7 – Full Resolution Level 0 products availability	8
Figure 2 - MER_FR__0P generated/missing by the ground segment during cycle #52.....	8
Figure 3 - MERIS Full Resolution Level 0 acquisitions - Part #1 – 10/09/2006 – 14/10/2006	9
Figure 4 - MERIS Full Resolution Level 0 acquisitions - Part #2 – 15/10/2006 – 19/10/2006	10
Figure 5 - MERIS Full Resolution Level 0 acquisitions - Part #3 – 20/10/2006 – 24/10/2006	11
Figure 6 - MERIS Full Resolution Level 0 acquisitions - Part #4 – 25/10/2006 – 29/10/2006	12
Figure 7 - MERIS Full Resolution Level 0 acquisitions - Part #5 – 30/10/2006 – 03/11/2006	13
Figure 8 - MERIS Full Resolution Level 0 acquisitions - Part #6 – 04/11/2006 – 08/11/2006	14
Figure 9 - MERIS Full Resolution Level 0 acquisitions - Part #7 – 09/11/2006 – 13/11/2006	15
Table 8 – EDAC corrected Single Event Upsets	17
Figure 10 - VEU Temperature during cycle #52	20
Figure 11 - METRIC calibration site map	21
Figure 12 – Number of L1B extracted products over METRIC sites.....	Erreur ! Signet non défini.

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 Universitat 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
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 #53 starts on the 13th of November 2006 and stops on the 18th of December 2006.

- A set of spectral calibration campaigns have been planned and executed: 3 orbits of Earth observation with a band setting dedicated to O₂ absorption (ca. 761 nm) at highest spectral resolution, 3 radiometric calibration sequences dedicated to the observation of Fraunhofer lines. As a consequence, orbits 24781 to 24783 (O₂ observations) cannot be processed to Level 2 and are not available to users.
- No new auxiliary file was disseminated during the reporting period.
- Three routine Radiometric Gain type calibrations were planned in the reporting period – all have been successfully executed nevertheless products for orbits 24460 and 25060 are reported as missing.
- Four non nominal radiometric gain type calibrations were planned and successfully executed, corresponding to spectral calibration campaigns.
- Four instrument unavailability periods occurred during the reporting period. The longest period of unavailability lasted more than three days.
- Five data unavailability periods occurred during the reporting period.

Details about the start and stop of the cycle can be found in the table below.

Cycle number	53
Start time	13 November 2006, 21:59:29
Stop time	18 December 2006, 21:59:29
Start orbit	24604
Stop orbit	25104

Table 1 – Cycle Characteristics

3 PROCESSOR VERSION AND PROCESSING CONFIGURATION

3.1 MERIS Processor Release

No changes in the IPF have been performed during cycle #52. The current MERIS processor configuration is described in the table below:

IPF Version	Validity	Reference Documents
5.02	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 5.02

3.2 Auxiliary data files (ADF)

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 #52

Note: The other files not included into the list change every time (ECMWF).

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 the following tables.

- Level 1 ADF configuration:

Product name	Start Validity
MER_INS_AXVIEC20050708_134312_20050101_000000_20150101_000000	01/01/2005
MER_CP1_AXVIEC20050607_065745_20020321_193100_20120321_193100	29/04/2002
MER_RAC_AXVIEC20061009_084736_20061009_220000_20161009_220000	09/10/2006
MER_DRM_AXVIEC20020122_083343_20020101_000000_20200101_000000	01/01/2002
AUX_DEM_AXVIEC20031201_000000_20031201_000000_20200101_000000	01/12/2003
AUX_LSM_AXVIEC20020123_141228_20020101_000000_20200101_000000	01/01/2002
AUX_ATT_AXVIEC20020924_131534_20020703_120000_20781231_235959	03/07/2002

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_AXVIEC20031120_104149_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_WVP_AXVIEC20040407_181941_20020321_193100_20120321_193100	21/03/2002

Table 5 – MERIS Level 1 Auxiliary Data Files

3.4 Configuration Table Interface (CTI)

No new CTI disseminated during cycle #53.

3.5 Level 1/ Level 2 RR or FR products

During cycle #52 no format changes or 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 log10 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

The table below shows the statistics regarding the RR L0 availability (compared to the planned production).

Week	MER_RR_OP %	
	Inventoried	Missing
From 13/11 to 20/11	100.00	0.00
From 20/11 to 27/11	100.00	0.00
From 27/11 to 4/12	92.28	0.50
From 4/12 to 11/12	100.00	0.00
From 11/12 to 18/12	93.83	6.17

Table 6 – Reduced Resolution Level 0 products availability

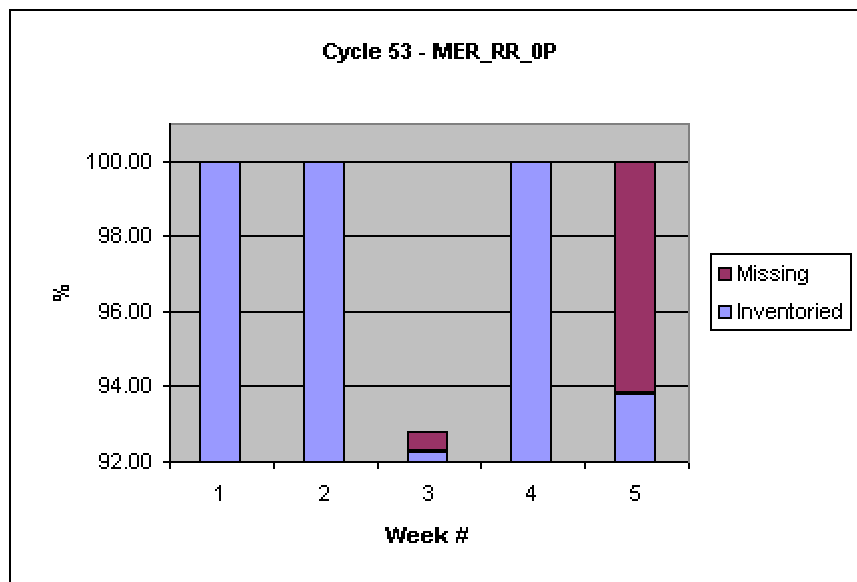


Figure 1 - MER_RR_OP generated/missing by the ground segment during cycle #53

The table below shows the statistics regarding the FR L0 availability (compared to the planned production).

Week	MER_FR_0P %	
	Inventoried	Missing
From 13/11 to 20/11	92.13	6.88
From 20/11 to 27/11	94.64	5.36
From 27/11 to 4/12	85.44	5.36
From 4/12 to 11/12	92.52	7.48
From 11/12 to 18/12	88.16	11.84

Table 7 – Full Resolution Level 0 products availability

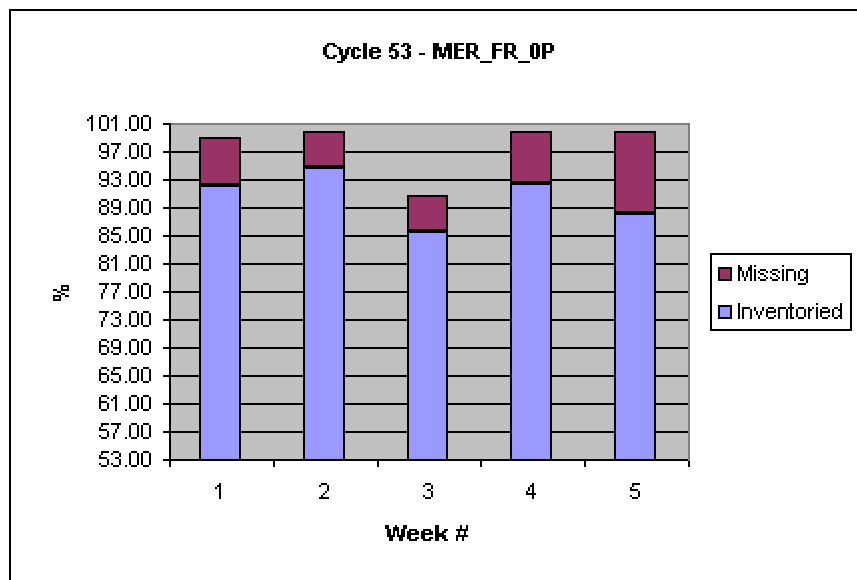


Figure 2 - MER_FR_0P generated/missing by the ground segment during cycle #53

4.2 MERIS FR acquisitions

The pictures below 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.

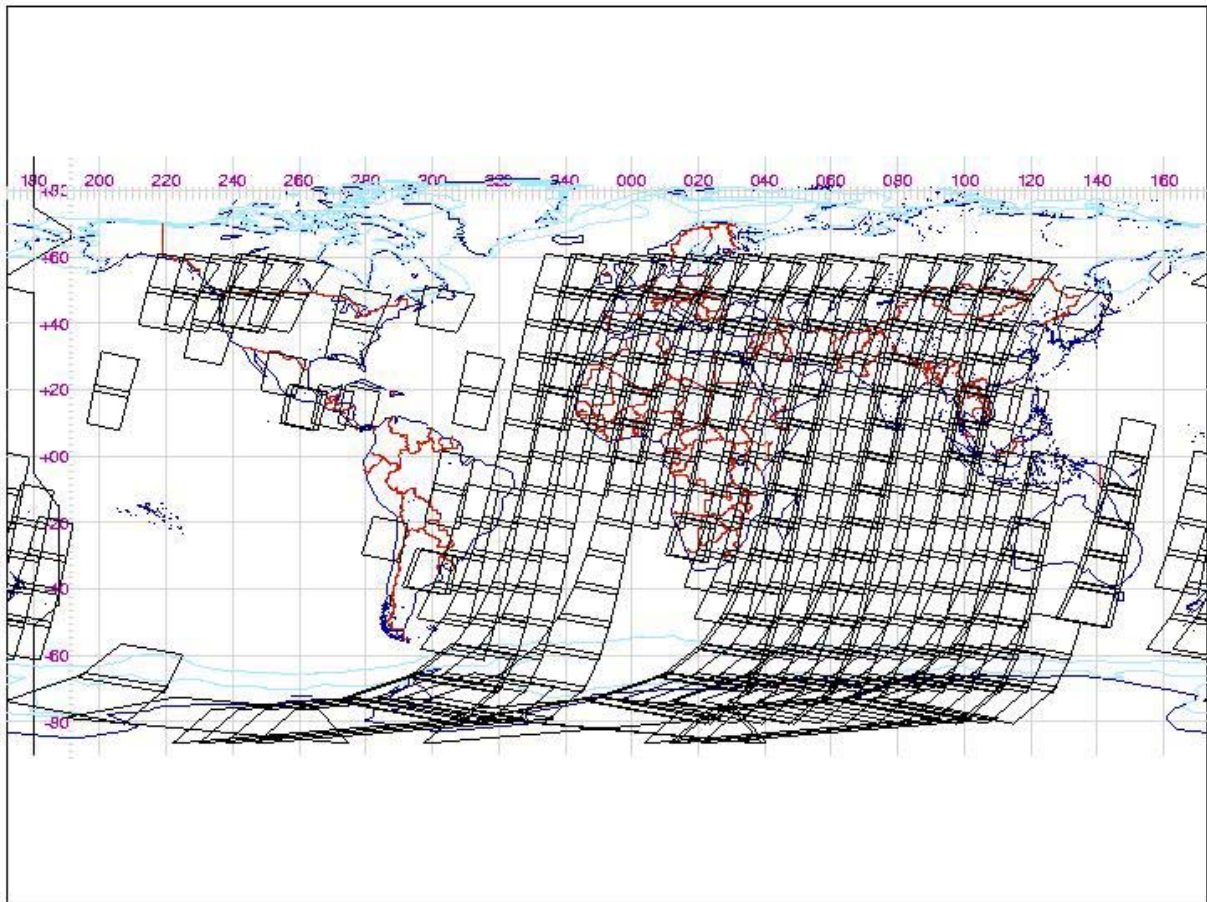


Figure 3 - MERIS Full Resolution Level 0 acquisitions - Part #1 – 14/11/2006 – 18/11/2006

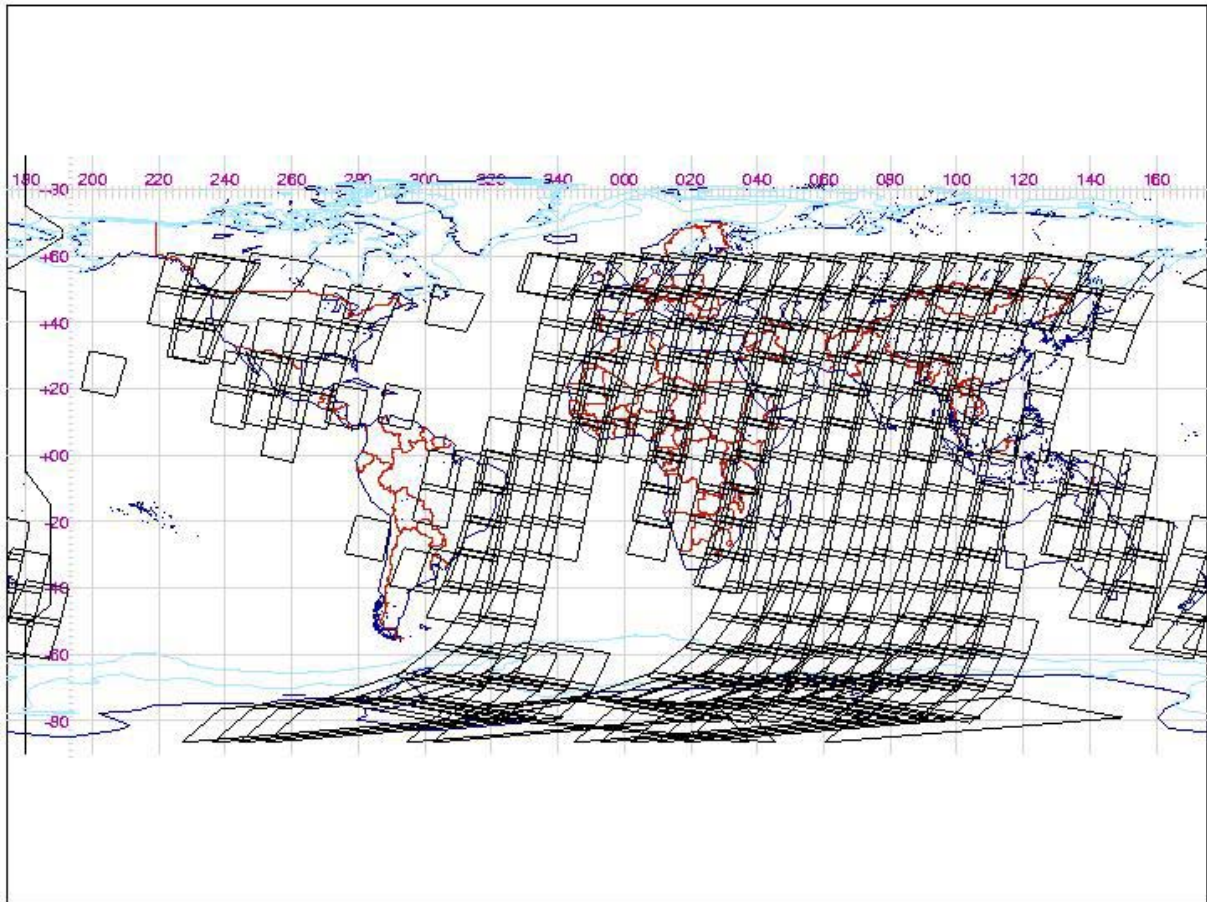


Figure 4 - MERIS Full Resolution Level 0 acquisitions - Part #2 - 19/11/2006 - 23/11/2006

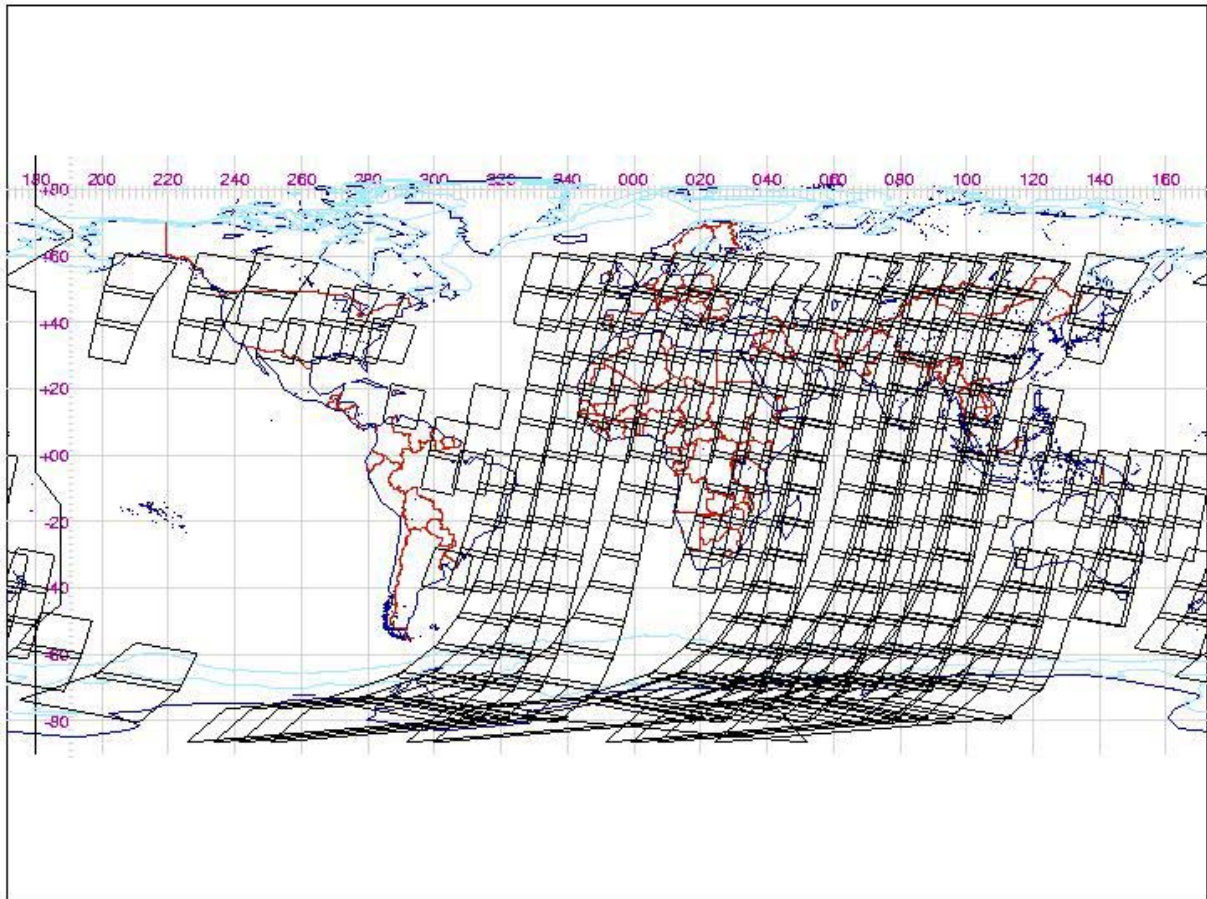


Figure 5 - MERIS Full Resolution Level 0 acquisitions - Part #3 – 24/11/2006 – 28/11/2006

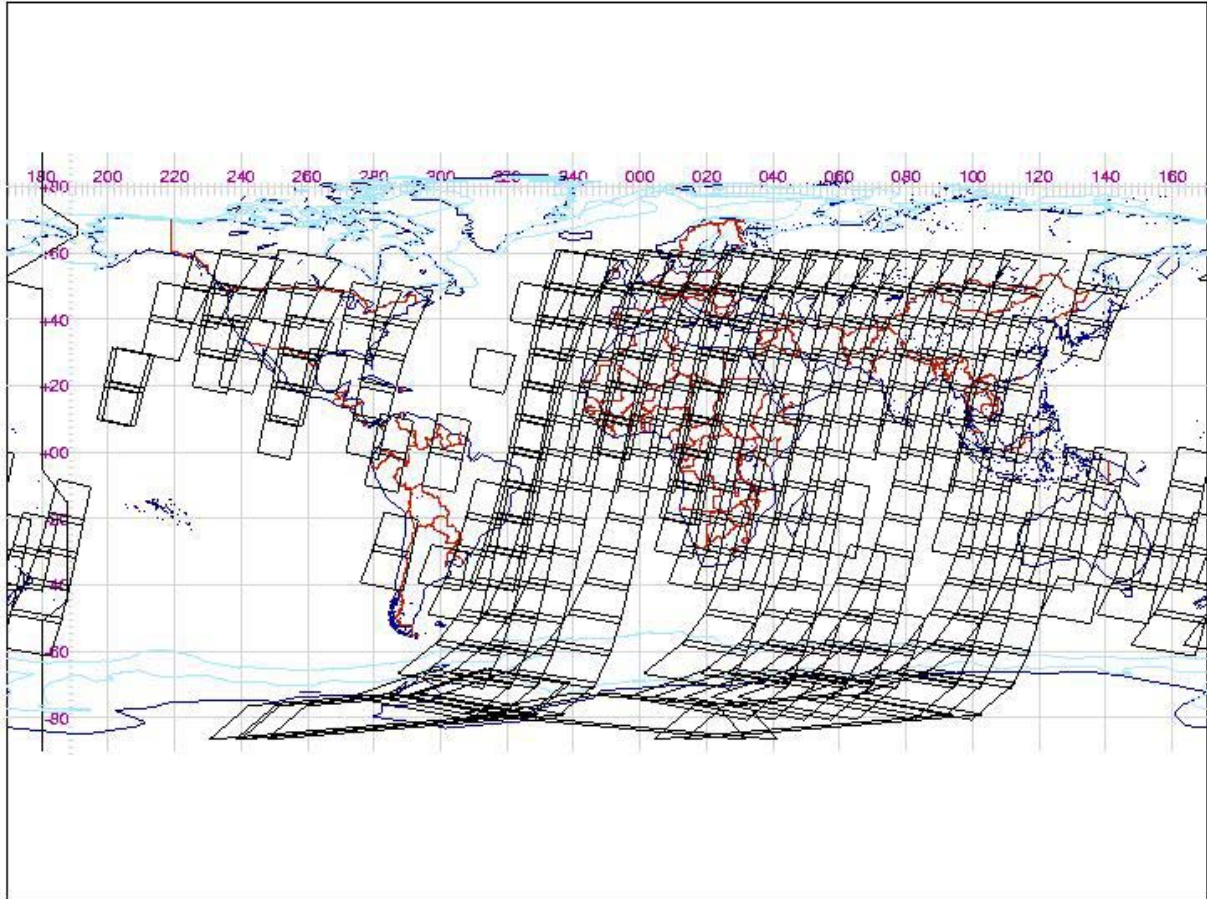


Figure 6 - MERIS Full Resolution Level 0 acquisitions - Part #4 - 29/11/2006 - 03/12/2006

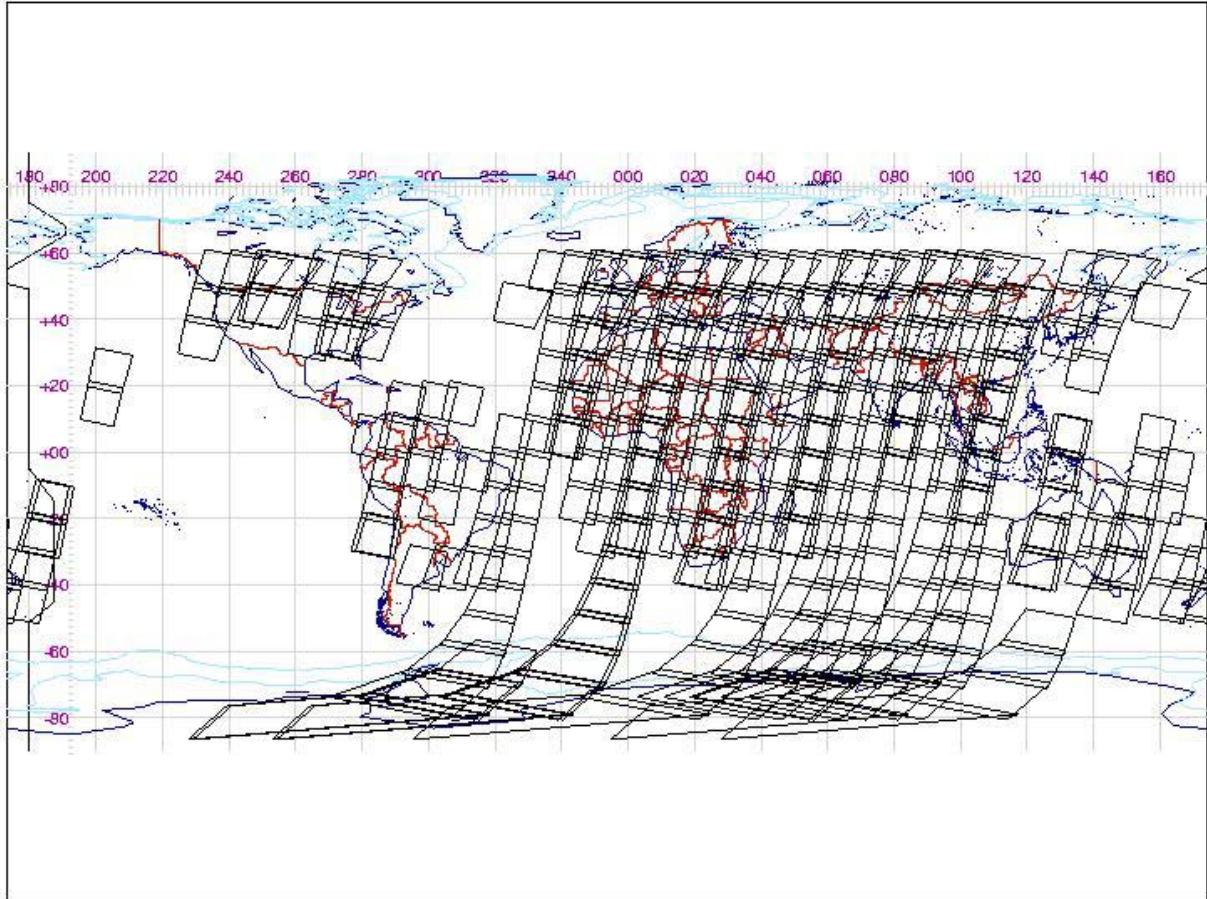


Figure 7 - MERIS Full Resolution Level 0 acquisitions - Part #5 - 04/12/2006 - 08/12/2006

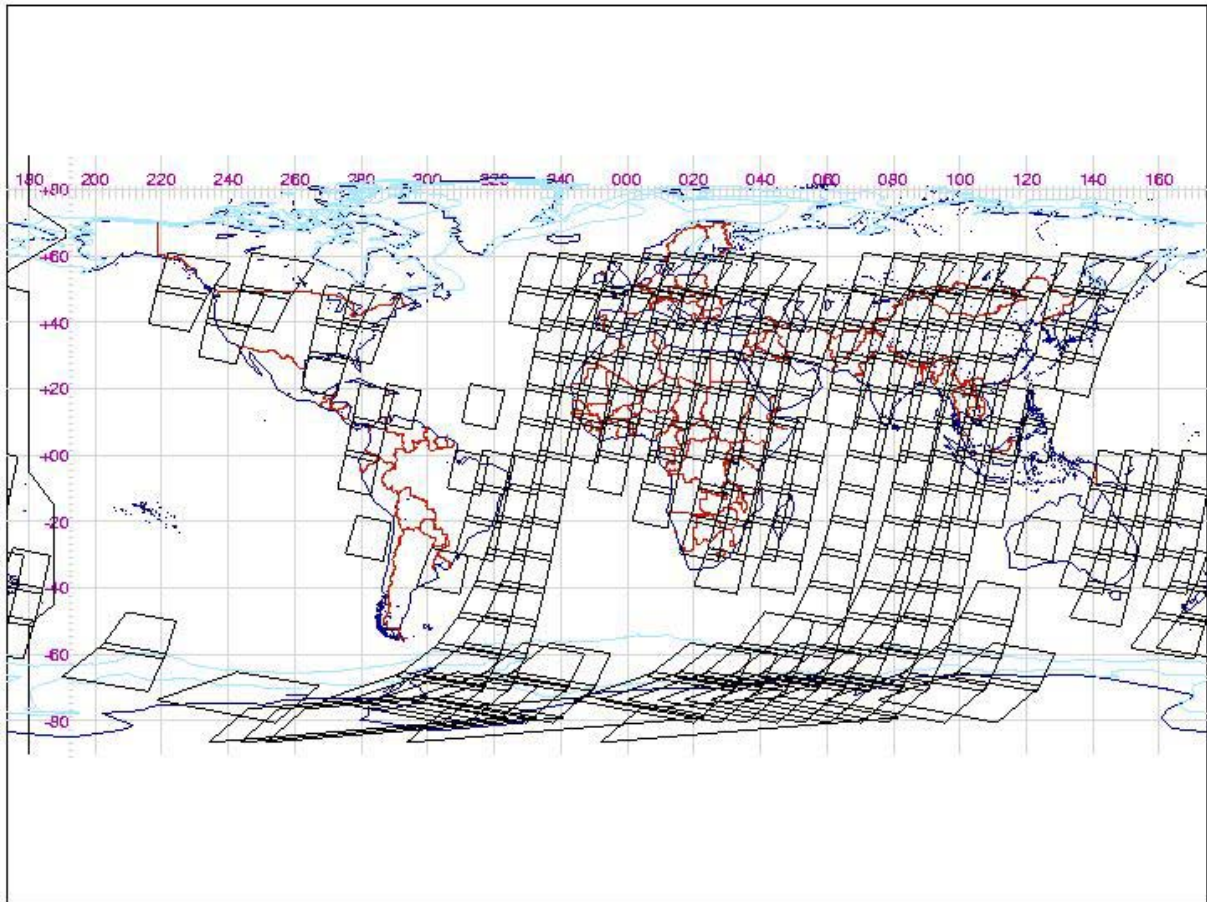


Figure 8 - MERIS Full Resolution Level 0 acquisitions - Part #6 - 09/12/2006 - 13/12/2006

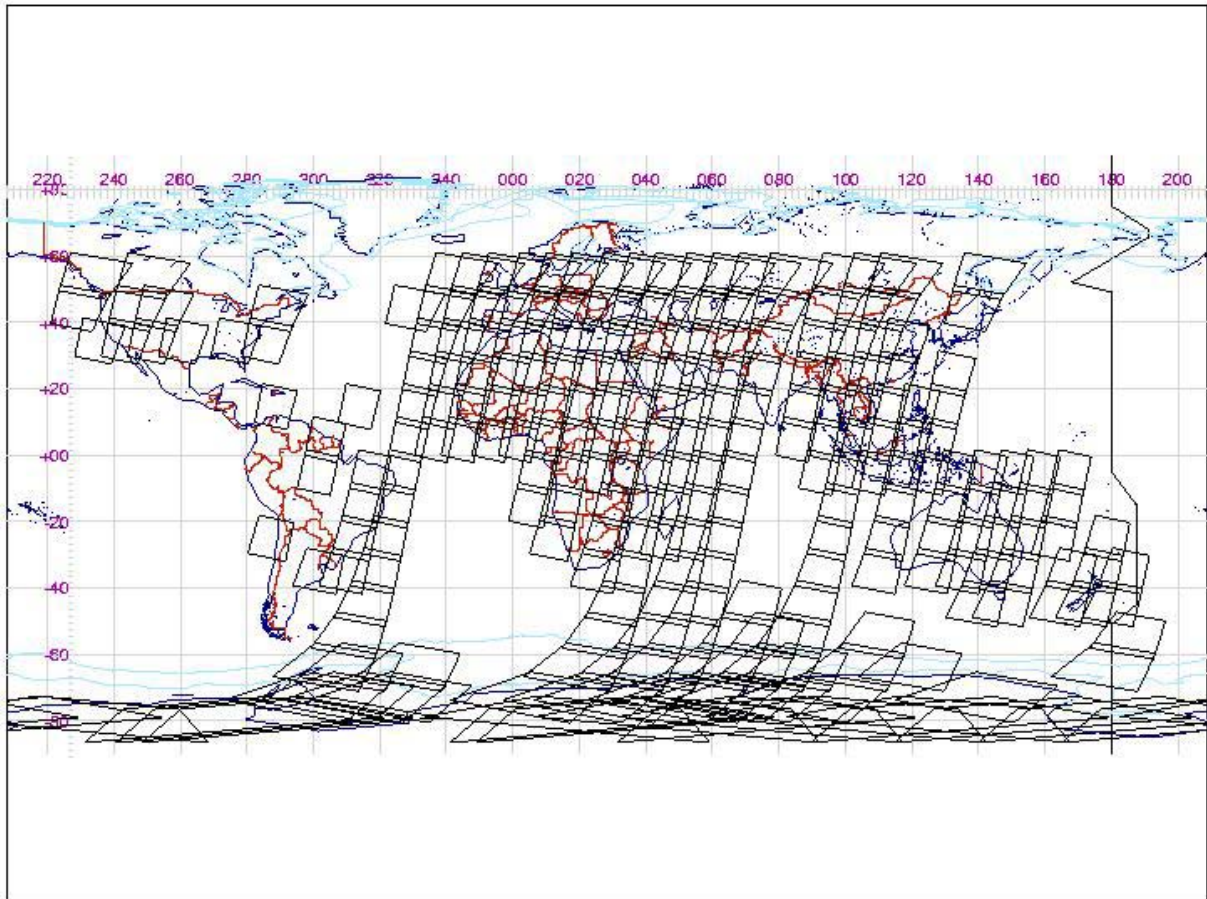


Figure 9 - MERIS Full Resolution Level 0 acquisitions - Part #7 – 14/12/2006 – 18/12/2006

4.3 MER_CA__0P Products

During the Cycle #53, the following radiometric, O2 and Fraunhofer campaigns have been planned:

- Radiometric Calibration on the 17th of November in orbit 24660 (Missing calibration file).
- Radiometric Calibration on the 1st of December in orbit 24860.
- Radiometric Calibration on the 15th of December in orbit 25060 (Missing calibration file).
- O2A campaign on the 26th of November in orbits 24781-24783 with radiometric calibration in orbit 24781.
- Fraunhofer campaign (calibration only) in orbits 24786-24788.

It should be pointed out that due to platform unavailability occurrences, the above schedule was modified with respect to prior plans.

The list of calibration files available is reported below:

MER_CA__0PNPDK20061126_080420_000001782053_00178_24781_0041.N1	O2A
MER_CA__0PNPDK20061126_162720_000001792053_00183_24786_0042.N1	Fraunhofer
MER_CA__0PNPDK20061126_180756_000001792053_00184_24787_0043.N1	Fraunhofer
MER_CA__0PNPDK20061126_194832_000001792053_00185_24788_0044.N1	Fraunhofer
MER_CA__0PNPDK20061201_203157_000001772053_00257_24860_0061.N1	RC

5 INSTRUMENT/DATA UNAVAILABILITY

5.1 Instrument Unavailability

The following instrument unavailability occurrences have been reported during cycle #53:

- MERIS EN-UNA-2006/0354 The MERIS recovery has been nominal following the scheduled EQSOL on the 2006.332.07.58.29 for solving a MM1 anomaly. MERIS was back in acquisition on 2006.333.22.18.29. Patch MER24.P14 has been successfully loaded during recovering procedures.
- MERIS EN-UNA-2006/0363 MERIS SDPSS spuriously switched to PAUSE mode caused by a SEU from 2006.337.18.55.05.00 to 2006.337.18.56.09.00. 1'04 have been lost.
- MERIS EN-UNA-2006/0368 MERIS SDPSS MODE =ANOMALY, switched to PAUSE mode due to a SEU from 2006.344.23.52.57.0 to 2006.344.23.54.01.0. 1'04 have been lost.
- MERIS EN-UNA-2006/0372 Unavailability Report MERIS (ARTEMIS/ENVISAT EN-UNA-2006/0370) Due to a LVL 3 PROTOCOL ERROR AND INTERRUPT All Instruments are Unavailable from 12/12/2006 18:02:17.0 doy = 346, Orbit = 25016, Anx Offset = 4567. MERIS back to operations 15 Dec 2006 22:28:02.000 Day of Year = 349 Orbit = 25062 Anx Offset = 2059. Patch MER24.P14 has been loaded during recovering procedures.

In the reporting period, 44 EDAC-corrected SEU occurred. The dates, times and geolocation of these events are given in the table below:

Date/Time year.day.hr.mn.sc	Lon.	Lat.
2006.345.12.12.26	148.9617° E	13.3076° S
2006.346.01.32.19	47.9451° W	30.6961° S
2006.346.12.39.41	42.5669° W	17.4328° S
2006.346.12.40.30	43.2556° W	20.3311° S
2006.350.11.07.51	169.8764° E	38.3793° S
2006.350.13.50.05	57.7887° W	2.0672° S
2006.351.02.12.46	55.9385° W	40.0325° S
2006.351.13.25.58	56.1459° W	28.7087° S
2006.340.01.20.18	44.5520° W	32.5571° S
2006.340.20.13.18	11.2467° E	60.7472° N
2006.341.00.49.20	37.2843° W	30.2599° S
2006.342.01.59.34	55.6964° W	25.8320° S
2006.342.03.22.47	3.2597° W	81.2932° S
2006.342.13.07.19	50.5392° W	23.6703° S
2006.342.13.07.48	50.9699° W	25.3821° S
2006.343.12.33.18	40.6000° W	15.1595° S
2006.343.14.10.17	62.8690° W	2.2984° S
2006.344.13.42.28	57.9989° W	15.8212° S
2006.331.15.06.33	49.1508° W	49.1508° W
2006.335.11.48.00	31.4990° W	27.9484° S
2006.336.16.13.43	95.2201° W	12.1355° S
2006.337.02.55.25	68.5643° W	31.4035° S
2006.337.14.03.54	64.1568° W	20.6659° S
2006.324.12.26.32	36.7854° W	1.3610° S
2006.324.12.33.37	42.6323° W	26.5198° S
2006.325.00.58.14	43.1782° W	8.8133° S
2006.325.11.58.50	32.0015° W	15.3006° S
2006.326.23.52.27	25.2993° W	17.8579° S
2006.327.03.15.55	77.4488° W	9.7911° S
2006.327.08.41.04	172.6198° E	71.8638° N
2006.327.10.57.28	17.7691° W	21.9432° S
2006.329.05.47.54	124.1370° W	40.0194° N
2006.318.21.42.37	6.4841° W	51.6147° N
2006.319.02.24.28	63.1038° W	19.0586° S
2006.319.11.42.48	25.5166° W	0.8826° N
2006.319.13.31.07	57.0104° W	26.5359° S
2006.319.22.32.20	5.4711° W	16.6343° S
2006.320.20.02.22	70.0688° E	77.0605° S
2006.320.23.40.12	21.7787° W	20.5855° S
2006.321.12.25.39	39.2517° W	18.6358° S
2006.322.06.57.27	39.2022° E	37.0694° S
2006.323.01.57.18	55.5218° W	23.6316° S
2006.323.11.20.45	22.0723° W	12.7321° S
2006.323.13.05.01	50.3381° W	25.7447° S

Table 8 – EDAC corrected Single Event Upsets

5.2 Data Unavailability

The following data unavailability occurrences have been reported during cycle #53.

- ARTEMIS/ENVISAT Unavailability Report 2006/035 APC was disconnected from 2006.323.09.31.47 to 2006.323.10:03:33 due to ARTEMIS anomaly.

- ARTEMIS/ENVISAT Unavailability Report 2006/036. The ENVISAT service SR_15215 did not start at scheduled time (after 646sec) due to not correct on-board reception time-tagged remote controls. Unavailability period from 2006/11/24 11:28:16 to 2006/11/24 11:38:02.
- ARTEMIS/ENVISAT Unavailability Report 2006/037 At 2006.332.14.47.54z, ARTEMIS triggered a spurious IU anomaly, which disconnect the APC from the bus. The APC has been reset and put back operative at 2006.332.14:53:50z. On November 30th morning, it has been discovered the ARTEMIS APC didn't behave nominally. It has been fully reset (complete switch OFF) by the AOCC. The APC was back operative at 2006.334.08:16:16z. Unavailability period from 2006/11/28 14:47:54 to 2006/11/28 14:53:50 and from 2006/11/29 21:37:50 to 2006/11/30 08:16:16.
- ARTEMIS/ENVISAT Unavailability Report 2006/038 Unavailability period From: 2006/12/17 04:27:17z To: 2006/12/17 05:31:42z (Day of Year: 351) At 2006.351.04.27.17z, ARTEMIS triggered a spurious IU anomaly, which disconnect the APC from the bus. The APC has been reset and put back operative at 2006.351.05:31:42z.
- ARTEMIS/ENVISAT Unavailability Report 2006/039. Unavailability period From: 2006/12/17 16:25:22z To: 2006/12/17 18:44:56z (Day of Year: 351) At 2006.351.16.25.22z, ARTEMIS triggered a spurious anomaly Level2A, which disconnected the APC from the bus. The APC has been reset and put back operative at 2006.351.18:44:56z (without harmonic compensation). At 2006.351.22.39.00z, ARTEMIS returned to his nominal operation with harmonic compensation activated.

6 CALIBRATION AND INSTRUMENT CHARACTERIZATION

6.1 Calibration

6.1.1 Radiometric calibration

During Cycle #53, the two following radiometric calibrations were successfully executed. For more details see section 4.3.

Radiometric Calibration has been executed successfully in orbit #24660 on doy 321 (17th of November) at 21.10.38z. (Missing calibration file).

Radiometric Calibration has been successfully executed on doy 335 (Fri 1st of December) at 19:12:46z in orbit 24860.

6.1.2 Spectral calibration

During Cycle #53, no erbium calibration were executed.

However, specific spectral calibration campaigns were successfully executed: O2A in orbits #24781-24783 and Fraunhofer in orbits #24786-24788. For more details see section 4.3.

Results are not yet available.

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 \pm 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 \pm 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 \pm 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.

During cycle #53, from a general point of view, temperature stayed within its nominal range. Nevertheless, one could observe two temperature drops as shown on the plot below. Both temperature drops correspond to instrument and/or platform unavailability (MERIS EN-UNA-2006/0354, and MERIS EN-UNA-2006/0372 ARTEMIS/ENVISAT EN-UNA-2006/0370).

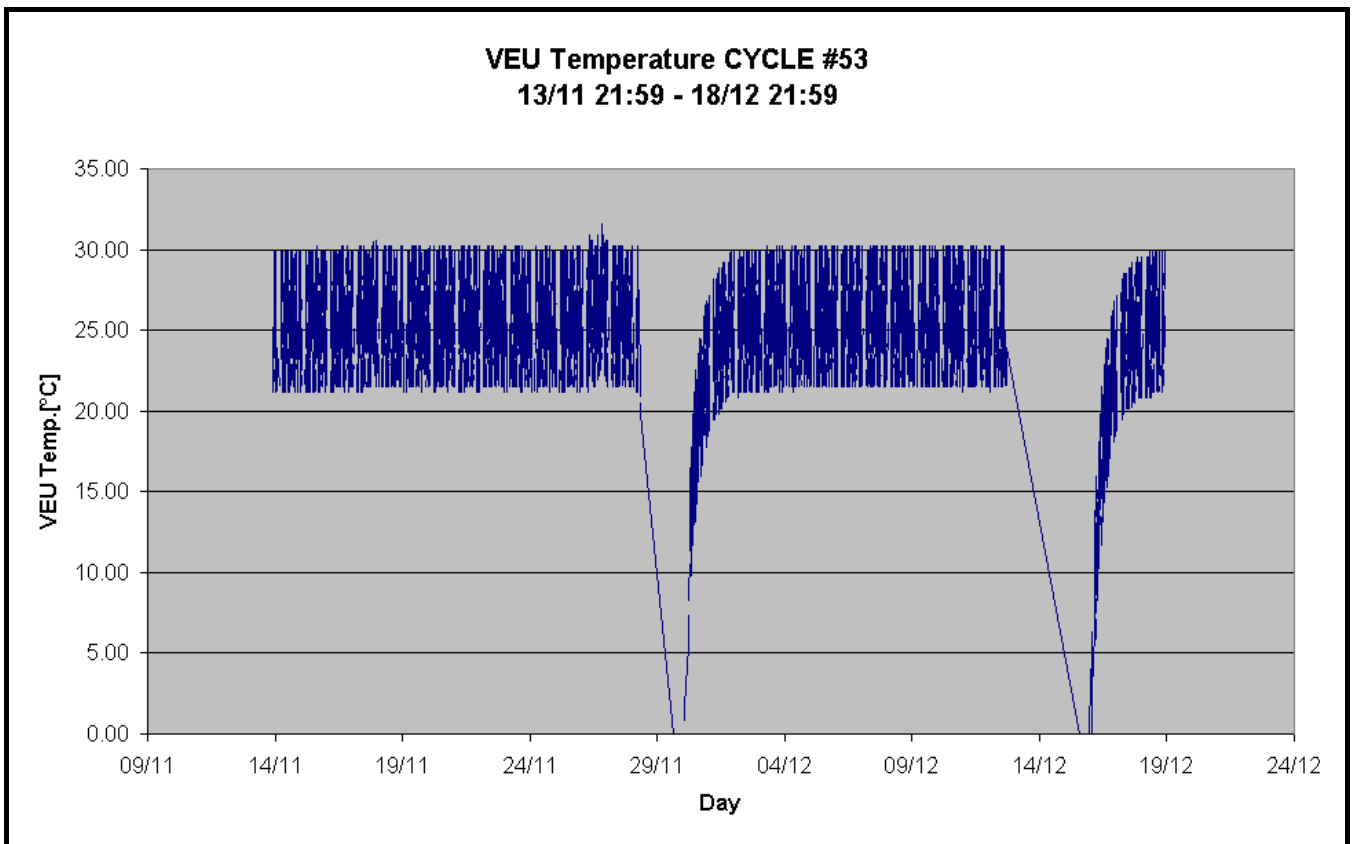


Figure 10 - VEU Temperature during cycle #52

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.

A site map is shown in the following picture:

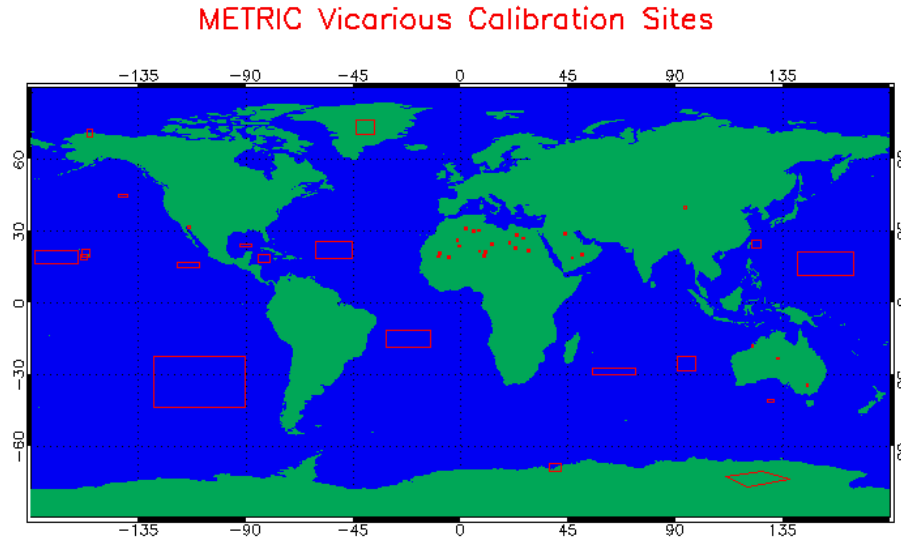


Figure 11 - METRIC calibration site map

During the cycle Metric has generated for specific sites the following results:

Sites	#Products
DESERT	304
GLITTER	61
RAYLEIGH	66
SNOW	20
BUOY	1

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

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 #53. For the last updates, refer to Cyclic Report #45 that can be found on the above-mentioned MERIS website (see Section 6.1.3).

6.2.2 Diffuser ageing

No new results to be shown for cycle #53. 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 #53. 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

No new results to be shown for cycle #53. Please refer to Cyclic Report #23 that can be found on the above-mentioned MERIS website.

7 DATA QUALITY CONTROL

7.1 MERIS products quality status

IPF version 5.02 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

The 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>