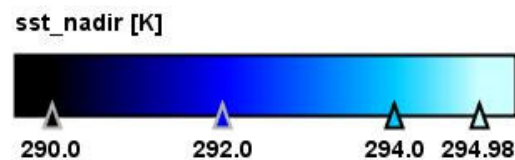
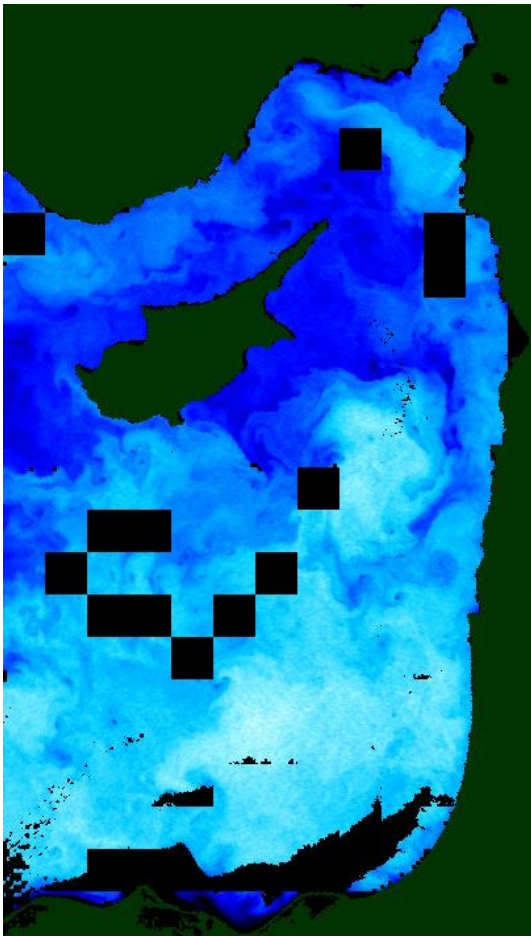


# ENVISAT - AATSR

## CYCLIC REPORT #53

	START	END
<i>DATE</i>	13 NOVEMBER 2006	18 DECEMBER 2006
<i>TIME</i>	21:59:29	21:59:29
<i>ORBIT #</i>	24604	25104



Mediterranean Sea, 17 December 2006 – This image shows the SST structure present around Cyprus. Nadir-only view; the black areas are pixels flagged as cloudy.

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author <i>auteur</i>	Sian Procter	date <i>date</i>	22 December 2006
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**C H A N G E L O G**

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## AATSR CYCLIC REPORT # 53

### 1 INTRODUCTION

The AATSR Cyclic Report is distributed by the AATSR DPQC team to keep the AATSR community informed of any modification regarding instrument performances, the data production chain and the results of calibration and validation campaigns at the end of each Envisat cycle, which consists of 501 complete orbits over the course of 35 days.

This document is available online at: <http://earth.esa.int/pcs/envisat/aatsr/reports/cyclic/>

#### 1.1 *Acronyms and Abbreviations*

AATSR	Advanced Along Track Scanning Radiometer
APC	Antenna Pointing Controller
CR	Cyclic Report
DDS	Data Dissemination System
DMOP	Detailed Mission Operation Plan
DMS	Data Management System
DPQC	Data Product Quality Control
EN-UNA-YYYY/#	Envisat Unavailability (plus year and number)
ESOC	European Space Operation Centre
HSM	High Speed Multiplexer
IECF	Instrument Engineering and Calibration Facilities
IPF	Instrument Processing Facilities
MPS	Mission Planning Schedule
NRT	Near Real Time
OCM	Orbit Control Manoeuvre
OBDAH	On-board Data Handling
PDS	Payload Data Segment
PMC	Payload Management Computer
SPR	Software Problem Reporting
SW	Software
VISCAL	Visible Calibration

The AATSR list of acronyms and abbreviation is in the following site:  
<http://envisat.esa.int/dataproducts/aatsr/CNTR5.htm#eph.aatsr.glossary>

## 2 SUMMARY

**Cyclic Report:** 53  
**Cycle Start:** 13 November 2006, 21:59:29, Orbit #: 24604  
**Cycle End:** 18 December 2006, 21:59:29 Orbit #: 25104

The main activities during the cycle have been as follows:

- **L0 Processor and IPF Version:**  
L0 Processor – no change (5.22)  
Level 1b & Level 2 processor – no change (5.59)
- **Visible channel calibration:**  
The visible calibration data supplied as an aux file (ATS\_VC1\_AX) continued to be regularly updated throughout the cycle.
- **Return to Kiruna/Artemis scenario:**  
Following temporary use of the Kiruna/Svalbard scenario, the return to the Kiruna/Artemis scenario was executed on 14 November, effective from orbit 24617.
- **ESRIN “missing packets” processing problem:**  
Following the ESRIN switch to FEOMI, orbits acquired at Svalbard displayed missing packets. This issue was resolved following the return to the Kiruna/Artemis scenario; the original issue is still under investigation.
- **Envisat maintenance activity:**  
There was a period of unplanned unavailability from 28 November, when the Envisat payload segment was shutdown to allow maintenance of the service module memory. AATSR returned to measurement mode on 30 November at 15:06:41.
- **Kiruna switch to FEOMI:**  
On 07 December, from orbit 24928, the PDHS-K centre was moved to a new multi-mission infrastructure. Envisat systematic disseminations can now be found on the following server: [oa-es.eo.envisat.esa.int](http://oa-es.eo.envisat.esa.int). Please note that currently the rolling archive is intermittently unavailable, but the issue is under investigation. Any further problems should be reported to [eohelp@esa.int](mailto:eohelp@esa.int).

- **Envisat switch off:**

There was a period of unplanned unavailability during this cycle, when the Envisat payload was shutdown on 12 December. AATSR returned to measurement on 16 December at 08:25:05.

- **Blue browse problem:**

Due to an expired VC1 daily file, orbits 25095 and 25096 acquired on 18 December were processed with the pre-launch visual calibration file, resulting in very poor results. Subsequent orbits were processed using a recent daily VC1 file and show no degradation in quality. The pre-launch file will be removed from the system, so that in future the processing will fail if there is no valid VC1 file available.

### 3 SOFTWARE & AUX FILE VERSION CONFIGURATION

#### 3.1 Software Version

AATSR IPF for Level 1 and Level 2: Version 5.59

#### 3.2 Auxiliary Files

AATSR processing uses the following auxiliary files:

- Browse Product Lookup Data (ATS\_BRW\_AX)
- L1b Characterisation Data (ATS\_CH1\_AX)
- Cloud Lookup Table Data (ATS\_CL1\_AX)
- General Calibration Data (ATS\_GC1\_AX)
- AATSR Instrument Data (ATS\_INS\_AX)
- Visible Calibration Coefficients Data (ATS\_VC1\_AX)
- L1b Processing Configuration Data (ATS\_PC1\_AX)
- L2 Processing Configuration Data (ATS\_PC2\_AX)
- SST Retrieval Coefficients Data (ATS\_SST\_AX)
- LST Land Surface Temperature Coefficients Data (ATS\_LST\_AX)

The latest filename for each auxiliary file in use in the PDS is as follows:

Product name
ATS_BRW_AXVIEC20020123_072338_20020101_000000_20200101_000000
ATS_CH1_AXVIEC20021114_113144_20020301_000000_20070801_235959
ATS_CL1_AXVIEC20020123_073044_20020101_000000_20200101_000000
ATS_GC1_AXVIEC20041214_154941_20020301_000000_20070801_235959
ATS_INS_AXVIEC20030731_092706_20020301_000000_20070801_235959
See below for VC1 files
ATS_LST_AXVIEC20040311_095537_20020301_000001_20070801_235959
ATS_PC1_AXVIEC20040812_063722_20020301_000000_20070801_235959
ATS_PC2_AXVIEC20020123_074151_20020101_000000_20200101_000000
ATS_SST_AXVIEC20051205_102103_20020101_000000_20200101_000000

Table 3-1 Latest auxiliary files currently in use by the PDS

### 3.2.1 STATUS OF DAILY VISIBLE CALIBRATION FILES

#### 3.2.1.1 VC1 File Availability

Reflectance channel calibration files were available for all dates, except for the following dates:

- 14<sup>th</sup> November 2006
- 29<sup>th</sup> November 2006 \*
- 30<sup>th</sup> November 2006 \*
- 5<sup>th</sup> December 2006
- 13<sup>th</sup> December 2006 \*
- 14<sup>th</sup> December 2006 \*
- 15<sup>th</sup> December 2006 \*
- 16<sup>th</sup> December 2006 \*

\* Due to platform shutdowns

### 3.2.2 STATUS OF OTHER AUXILIARY FILES

The following list highlights any of the other auxiliary files changed during this cycle.

Product name	Date Introduced	Validity Range	Reason for Change
No changes during this cycle			



## 4 PDS STATUS

### 4.1 Instrument Unavailability

AATSR data were unavailable due to instrument unavailability at the following times during the cycle:

UTC Start	UTC Stop	Reason	Reference	Planned
28 November 2006 07:40	30 November 2006 15:06	Envisat payload shutdown	EN-UNA-2006/0354	YES
12 December 2006 16:49	16 December 2006 08:00	Envisat payload shut-off	EN-UNA-2006/0370	NO

Table 4-1 Instrument unavailability during cycle 53

### 4.2 L0 Data Acquisition and L1b Processing Status

The L0 data were available for 98.99% of the time during the cycle.

The L1b data were available for 98.99% of the time during the cycle.

The following L0 data were missing from this cycle:

NB Missing L0 data are automatically also missing at L1b. Therefore the missing L1b data specifically reported in Table 4-3 represent additional data gaps where the start time does not coincide with L0 data already known to be missing.

UTC Start	UTC Stop	Duration (s)	Orbit Start	Orbit End
28-Nov-2006 06:43	28-Nov-2006 07:40	3422	24809	24810
30-Nov-2006 15:06	30-Nov-2006 15:06	3	24843	24843
16-Dec-2006 08:00	16-Dec-2006 08:31	1876	25068	25068
16-Dec-2006 08:39	16-Dec-2006 10:02	4953	25068	25069
16-Dec-2006 19:56	16-Dec-2006 20:54	3476	25075	25075
16-Dec-2006 21:15	16-Dec-2006 22:32	4652	25075	25076
17-Dec-2006 03:23	17-Dec-2006 05:05	6103	25079	25080
17-Dec-2006 07:54	17-Dec-2006 09:34	5957	25082	25083

Table 4-2 ATS\_NL\_\_0P missing data during cycle 53

UTC Start	UTC Stop	Duration (s)	Orbit Start	Orbit End
24-Nov-2006 14:49	24-Nov-2006 14:49	17	24757	24757
16-Dec-2006 22:32	16-Dec-2006 22:32	4	25076	25076

Table 4-3 ATS\_TOA\_1P missing data during cycle 53

#### 4.2.1 ORBITS AFFECTED BY POOR DATA QUALITY

The information reported in Table 4-2 does not consider the quality of data, only whether or not it is available.

In the following orbit, a few frames suffered from bad/missing telemetry:

- 24843 (30<sup>th</sup> November 2006) \*
- 24912 (5<sup>th</sup> December 2006)
- 24926 (6<sup>th</sup> December 2006)
- 25068 (16<sup>th</sup> December 2006) \*
- 25072,5 (16<sup>th</sup> December 2006)
- 25095,6 (18<sup>th</sup> December 2006) °

\* These orbits show the large areas of different contrast, a known restart anomaly.

° These orbits show the “blue browse” problem.

### **4.3 L0 and L1b Backlog Processing Status**

The list of data missing during the previous cycle has not changed.

## 5 DATA QUALITY CONTROL

### 5.1 *Monitoring of Instrument Parameters*

#### 5.1.1 JITTER

Information on jitter was not available before the report was published. This information shall be contained in Cyclic Report 54.

#### 5.1.2 SENSOR TEMPERATURE

Information on sensor temperature was not available before the report was published. This information shall be contained in Cyclic Report 54.

#### 5.1.3 VISCAL

Information on viscal was not available before the report was published. This information shall be contained in Cyclic Report 54.

#### 5.1.4 NE $\Delta$ T

Information on NE $\Delta$ T was not available before the report was published. This information shall be contained in Cyclic Report 54.

### 5.2 *User Rejections*

There were no user rejections during this cycle.

### 5.3 *Software Problem Reporting*

This section describes the open SPRs, their potential impact on the data quality, and SPRs that have been closed.

#### 5.3.1 EXISTING SPRS THAT ARE STILL OPEN

##### **Unphysical sea surface temperature values in Level 2 AATSR products from PDHS-E at intervals of 480 rows:**

Open – The investigation shows that the problem does not happen using the IPF 5.59 with respect to the IPF 5.52 on which the problem was detected. No further instances of the problem have been reported. Original OAR (OAR-193) closed. Investigation will continue as a background task and a new OAR opened if necessary.

**Inconsistent values in AST confidence word, 17 km cell:**

Open - Investigation completed (an error has been found in the setting of the flag indicating the use of ir37 channel). The problem has been corrected and a patch will be provided for the IPF within the next few weeks.

**Cloud Flagging Errors leading to Missing Zones in Consolidated AATSR Data:**

Open – Systematic bands of missing data were observed in monthly mean SST maps for December products from all years. The problem has been traced to a problem with the loading of the "12 micron gross cloud test" LUT from the relevant auxiliary file. The problem has been corrected and a patch will be provided for the IPF within the next few weeks.

**5.3.2 NEW SPRS SINCE THE LAST CYCLIC REPORT**

No new SPRs have been opened since the last Cyclic Report.

**5.3.3 CLOSED SPRS**

No new SPRs have been closed since the last Cyclic Report.

## **6 CALIBRATION/VALIDATION ACTIVITIES & RESULTS**

### **6.1 *Calibration***

Information on calibration results was not available before the report was published. This information shall be contained in Cyclic Report 54.

### **6.2 *Validation***

Information on validation results was not available before the report was published. This information shall be contained in Cyclic Report 54.

## **7      DISCLAIMERS**

No new disclaimers have been issued during this cycle.