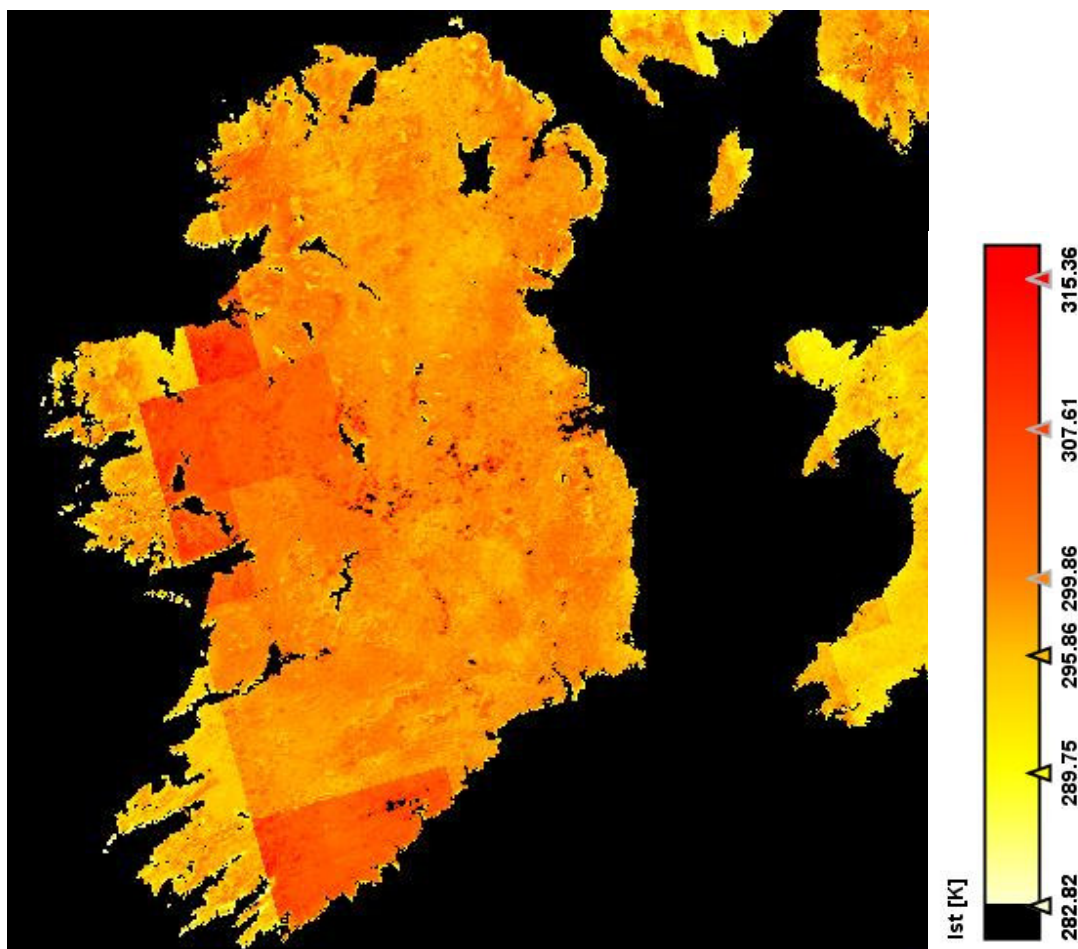


# ENVISAT - AATSR

## CYCLIC REPORT #57

	START	END
DATE	02 APRIL 2007	07 MAY 2007
TIME	21:59:29	21:59:29
ORBIT #	26608	27108



Ireland, 03 May 2007 – Land Surface Temperature image over Ireland. The “blocky” appearance is due to the structure of the underlying auxiliary data

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# AATSR CYCLIC REPORT # 57

## 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
LUT	Look Up Table
MPS	Mission Planning Schedule
NRT	Near Real Time
OCM	Orbit Control Manoeuvre
OBDH	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:** 57

**Cycle Start:** 02 April 2007, 21:59:29, Orbit #: 26608

**Cycle End:** 07 May 2007, 21:59:29 Orbit #: 27108

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 (6.0)

- **Visible channel calibration:**

The visible calibration data supplied as an aux file (ATS\_VC1\_AX) continued to be regularly updated throughout the cycle.

- **Envisat OCM:**

In accordance with a new mission strategy, an OCM is to be executed at the start of alternate cycles. The OCM started on 02 April at 23:50:59 and finished 03 April 07:00:00; AATSR data are unavailable for this period, orbits 26609-26613.

## 3 SOFTWARE & AUX FILE VERSION CONFIGURATION

### 3.1 Software Version

AATSR IPF for Level 1 and Level 2: Version 6.0

### 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_AXNIEC20070223_102348_20010308_120446_20120801_235959
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*

The daily reflectance channel calibration files were available for all dates, except for the following:

- 4<sup>th</sup> April 2007
- 4<sup>th</sup> May 2007

The orbital reflectance channel calibration files VC1 files were created from the available L0 files for all dates, except for the following:

- 4<sup>th</sup> April 2007

### 3.2.2 STATUS OF OTHER AUXILIARY FILES

No other auxiliary files changed 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
02 April 2007 23:50:59	03 April 2007 07:00:00	Envisat OCM	EN-UNA-2007/0088	YES

Table 4-1 Instrument unavailability during cycle 57

### 4.2 L0 Data Acquisition and L1b Processing Status

The L0 data were available for 96.74% of the time during the cycle.

The L1b data were available for 96.55% of the time during the cycle.

The following L0 and L1b 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
02-Apr-2007 22:14	02-Apr-2007 23:27	4364	26608	26608
03-Apr-2007 07:00	03-Apr-2007 07:24	1482	26613	26613
10-Apr-2007 13:11	10-Apr-2007 18:01	17393	26717	26720
11-Apr-2007 09:21	11-Apr-2007 17:30	29330	26729	26734
15-Apr-2007 12:15	15-Apr-2007 15:31	11734	26788	26790
17-Apr-2007 00:28	17-Apr-2007 02:04	5724	26809	26810
21-Apr-2007 18:55	21-Apr-2007 20:34	5939	26878	26879
23-Apr-2007 13:24	23-Apr-2007 14:41	4625	26903	26904
25-Apr-2007 16:54	25-Apr-2007 20:12	11879	26934	26936
30-Apr-2007 04:54	30-Apr-2007 05:56	3748	26998	26999
30-Apr-2007 05:56	30-Apr-2007 06:33	2232	26999	26999

Table 4-2 ATS\_NL\_\_OP missing data during cycle 57

UTC Start	UTC Stop	Duration (s)	Orbit Start	Orbit End
10-Apr-2007 11:34	10-Apr-2007 13:10	5810	26716	26717

Table 4-3 ATS\_TOA\_1P missing data during cycle 57

#### 4.2.1 ORBITS AFFECTED BY POOR DATA QUALITY

The information reported in Section 4.2 does not consider the quality of data, only whether or not it is available.



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

- 26820 (17<sup>th</sup> April 2007)
- 26827 (18<sup>th</sup> April 2007)
- 26843 (19<sup>th</sup> April 2007)
- 26913, 26921 (24<sup>th</sup> April 2007)
- 26933 (25<sup>th</sup> April 2007)
- 26946/8 (26<sup>th</sup> April 2007)
- 26956-9, 26962 (27<sup>th</sup> April 2007)
- 26977 (28<sup>th</sup> April 2007)
- 26942-6 (29<sup>th</sup> April 2007)

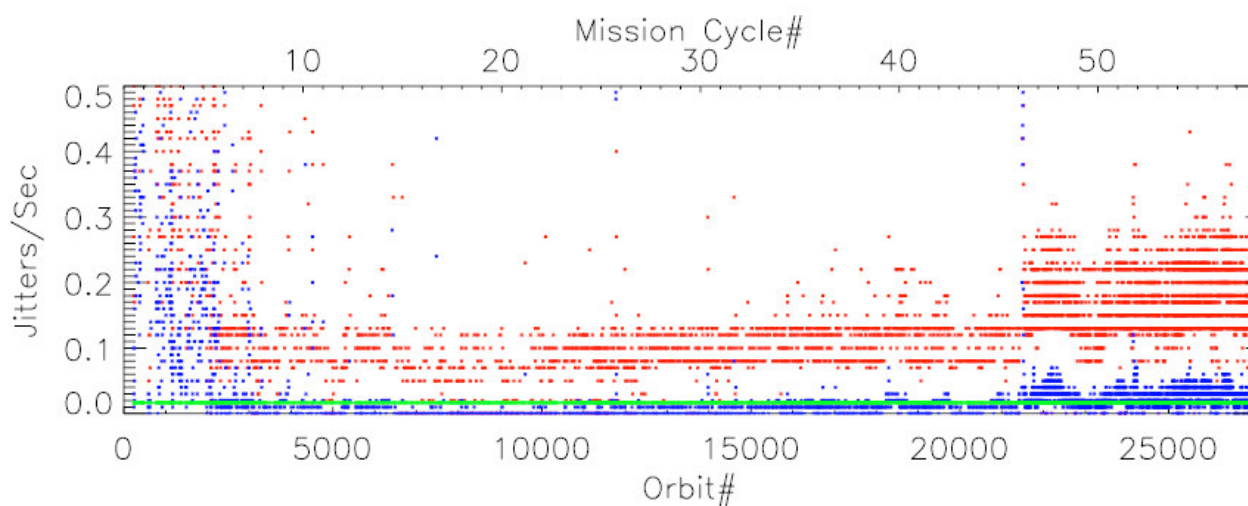
### **4.3 L0 and L1b Backlog Processing Status**

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**



**Figure 5-1 Jitter trend from mission start**

The plot shows the jitter-trend since the start of the mission, against both orbit-number and cycle-number. The mean jitter-rate (per-orbit) is shown in blue and the maximum rate per orbit in red. The green horizontal line shows the nominal mean jitter-level achieved for much of the mission. The mean jitter-rate over the last cycle shows some improvement compared to recent cycles, but continues to be well above the nominal level. There is no significant deterioration in image quality associated, but this is continually monitored.

### 5.1.2 SENSOR TEMPERATURE

While in measurement mode, all sensors maintained their nominal orbital and seasonal ranges in this cycle.

### 5.1.3 VISCAL

Reflectance channel calibration files are available for most days in these cycles, except:

- April 04

In addition, the following set of "orbit-by-orbit" VC1 files were delivered:

<http://aatsr2.ag.rl.ac.uk/data2/aatsr2/EDS-X/CyclePlots/VC1-57.txt>

### 5.1.4 NE $\Delta$ T

	Hot BB T = 300.95K		Cold BB T = 261.92K	
	Count	NE $\Delta$ T (mK)	Count	NE $\Delta$ T (mK)
12 $\mu$ m	1.55	34.8	1.22	35.8
11 $\mu$ m	1.60	32.6	1.15	34.7
3.7 $\mu$ m	2.52	31.7	1.21	76.7

Table 5-1 NE $\Delta$ T data for Cycle 56

	Hot BB T = 302.09K		Cold BB T = 263.32K	
	Count	NE $\Delta$ T (mK)	Count	NE $\Delta$ T (mK)
12 $\mu$ m	1.72	35.9	1.27	36.6
11 $\mu$ m	1.69	34.4	1.20	35.7
3.7 $\mu$ m	2.65	33.2	1.23	75.2

Table 5-2 NE $\Delta$ T data for Cycle 57

## 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

There are no existing SPRs still open.

### 5.3.2 NEW SPRS SINCE THE LAST CYCLIC REPORT

The following SPRs have been opened since the last Cyclic Report:

**Missing Viscal GADS in AATSR Consolidated L1B products (OAR-2831):**

Open – Inspection has revealed that Viscal GADS are absent in all consolidated L1B products, regardless of whether or not they are present in the corresponding NRT data.

### 5.3.3 CLOSED SPRS

The following SPRs have been closed since the last Cyclic Report:

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

Closed – 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; a new OAR will be opened if the problem reoccurs.

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

### **6.1 *Calibration***

The calibration information for this cycle was not available at the time of publishing; this shall be included in the report for the next cycle.

### **6.2 *Validation***

The validation information for this cycle was not available at the time of publishing; this shall be included in the report for the next cycle.

## **7      DISCLAIMERS**

No new disclaimers have been issued during this cycle.