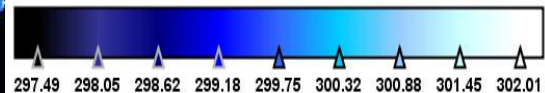
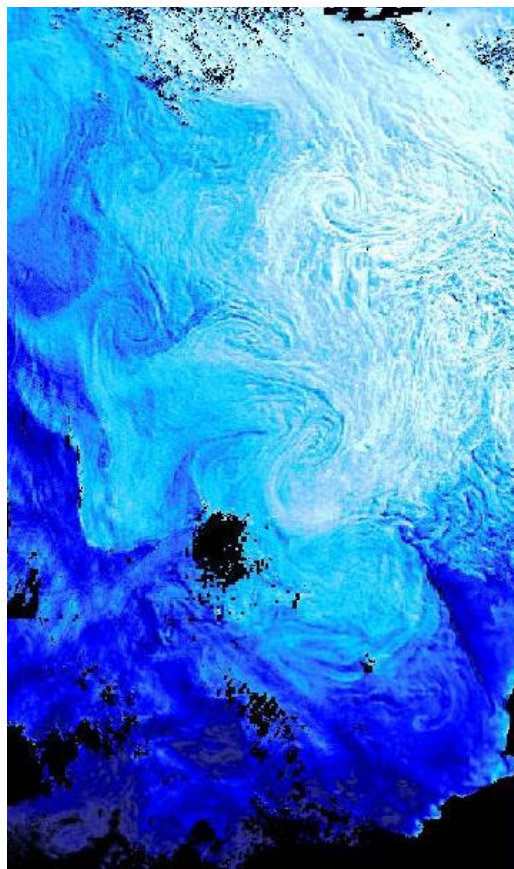


ENVISAT - AATSR

CYCLIC REPORT #72

	START	END
<i>DATE</i>	<i>08 SEPT 2008</i>	<i>13 OCT 2008</i>
<i>TIME</i>	<i>21:59:29</i>	<i>21:59:29</i>
<i>ORBIT #</i>	<i>34123</i>	<i>34623</i>



North Western Australia, 29th September 2008 – Dual View Sea Surface Temperature observed during orbit 34418. The scale gives absolute temperature in Kelvin.

prepared by/préparé par AATSR IDEAS and QWG team
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AATSR CYCLIC REPORT # 72

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
RAL	Rutherford Appleton Laboratory
SPR	Software Problem Reporting
SSR	Solid State Recorder
SW	Software
VISCAL	Visible Calibration

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

2 SUMMARY

Cyclic Report: 72

Cycle Start: 08 Sept 2008, 21:59:29 Orbit #: 34123

Cycle End: 13 Oct 2008, 21:59:29 Orbit #: 34623

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 (6.01)

- **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**

An Envisat Orbital Control Manoeuvre was conducted from on the 8th/9th of September. Consequently, AATSR was switched to heater mode from 08/09/2008 22:05:59 to 09/09/2008 07:00:00.

3 SOFTWARE & AUX FILE VERSION CONFIGURATION

3.1 Software Version

AATSR IPF for Level 1 and Level 2: Version 6.01

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_AXVIEC20070720_093530_20020301_000000_20200101_000000
ATS_CL1_AXNIEC20070223_102348_20010308_120446_20120801_235959
ATS_GC1_AXVIEC20070720_093834_20020301_000000_20200101_000000
ATS_INS_AXVIEC20070720_094014_20020301_000000_20200101_000000
See below for VC1 files
ATS_LST_AXVIEC20070720_094144_20020301_000001_20200101_000000
ATS_PC1_AXVIEC20070720_094312_20020301_000000_20200101_000000
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:

- 09 September 2008,
- 13 September 2008,
- 04 October 2008,
- 05 October 2008.

The orbital VC1 files continued to be generated from the available L0 data.

3.2.2 STATUS OF OTHER AUXILIARY FILES

No 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
08-Sep-2008 22:05:59	09-Sep-2008 07:00:00	OCM	EN-UNA-2008-0144	Yes

Table 4-1 Instrument unavailability during cycle 72

4.2 L0 Data Acquisition and L1b Processing Status

Week		Orbit		Availability (s)			Availability (%)		
#	Dates	Start	Stop	Inst Unav	L0 gaps	L1 gaps	Instrument	L0	L1
1	September 8, 2008	34123	34222	32041	16408	0	94.70%	91.99%	91.99%
2	September 15, 2008	34223	34322	0	5947	0	100.00%	99.02%	99.02%
3	September 22, 2008	34323	34423	0	0	0	100.00%	100.00%	100.00%
4	September 29, 2008	34424	34523	0	0	0	100.00%	100.00%	100.00%
5	October 6, 2008	34524	34623	0	0	0	100.00%	100.00%	100.00%

Table 4-2 Instrument and data unavailability weekly summary for cycle 72

The instrument was available for 98.94% of the time during the cycle.
The L0 data were available for 98.20% of the time during the cycle.
The L1b data were available for 98.20% of the time during the cycle.

The following L0 data was missing from this cycle:

UTC Start	UTC Stop	Duration (s)	Orbit Start	Orbit End
11/09/2008 20:40	12/09/2008 01:14	16408	34165	34167
17/09/2008 22:05	17/09/2008 23:44	5947	34251	34252

Table 4-3 ATS_NL__0P missing data during cycle 72

There were no data missing at L1b that were not associated with missing L0 data.

4.2.1 ORBITS AFFECTED BY POOR DATA QUALITY

The information reported in Section 0 does not consider the quality of data, only whether or not it is available.

During this cycle, the following orbits contained frames suffering from bad/missing telemetry:

- 34235 (16th September 2008)
- 34248 (17th September 2008)

- 34462 (2nd October 2008)
- 34573, 34578 (10th October 2008)

4.3 L0 and L1b Backlog Processing Status

There is no update available for report on the status of backlog processing.

5 DATA QUALITY CONTROL

5.1 *Monitoring of Instrument Parameters*

5.1.1 JITTER

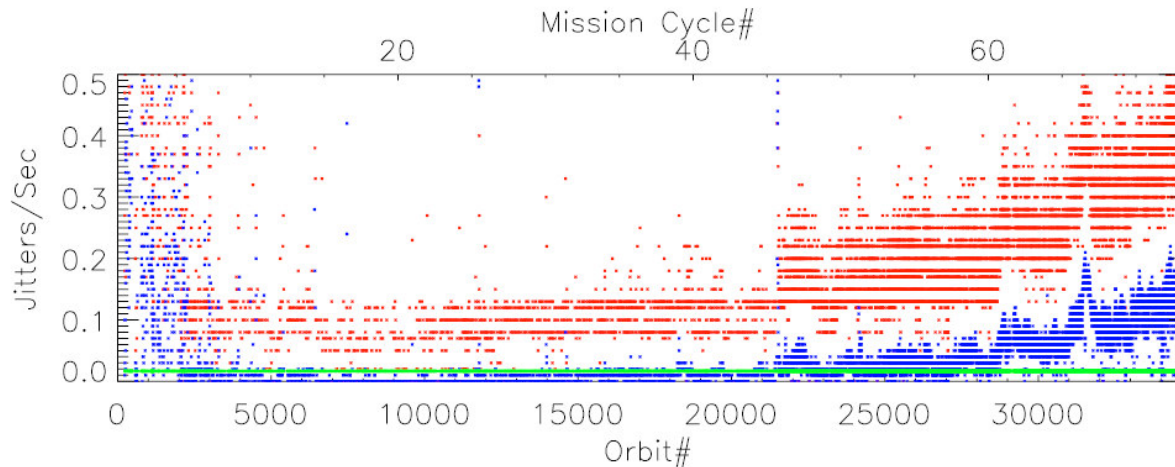


Figure 5.1 Jitter trend from mission start

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 plot shows that the mean rate continues to increase slowly.

5.1.2 SENSOR TEMPERATURE

The detector temperature plots for cycle 72 can be found at:

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

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

5.1.3 VISCAL

NRT calibration quality for AATSR reflectance channels has been maintained throughout this cycle.

In addition, the following set of “orbital” VC1 files was delivered:

<http://aatsr2.ag.rl.ac.uk/data2/aatsr2/EDS-X/CyclePlots/VC1-72.txt>

5.1.4 NE Δ T

	Hot BB T = 300.87K		Cold BB T = 261.65K	
	Count	NE Δ T (mK)	Count	NE Δ T (mK)
12 μ m	1.55	32.5	1.17	34.3
11 μ m	1.49	30.5	1.11	33.7
3.7 μ m	2.45	30.8	1.20	76.6

Table 5-1 NE Δ T data for cycle 71

	Hot BB T = 301.01K		Cold BB T = 261.89K	
	Count	NE Δ T (mK)	Count	NE Δ T (mK)
12 μ m	1.51	31.6	1.15	33.7
11 μ m	1.46	29.8	1.10	33.2
3.7 μ m	2.42	30.4	1.20	75.9

Table 5-2 NE Δ T data for cycle 72

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

The following SPRs are still open:

Inconsistent values in AST Confidence word, 17 and 50km cells

NA-PR-07-02946

The AST confidence word may be incorrectly set for records where the nadir or dual view SST retrieval was invalid, indicating that the 3.7 micron channel was used (although this has no meaning in this instance). Although the wrongly set flags may be ignored as far as the 17km cell is concerned, they present a problem since they may propagate into the confidence word for the 50km cell. The problem does not occur for daytime (descending) arcs where the retrievals are valid for both views.

AATSR Child Products contain insufficient number of ADS records.

NA-PR-08-03912

The number of ADS records present in AATSR child products is insufficient for processing of the entire product. Users are currently advised to order products of at least 1 granule longer to obtain all required ADS records. Excluding the SQADS and the scan pixel x and y ADS, the DPM requires that for AATSR full resolution

products, the number of records in the ADS shall be one greater than the number of MDS granules in the product. Child products are currently produced with a number of ADS records equal to the number of MDS granules in the product.

5.3.2 NEW SPRS SINCE THE LAST CYCLIC REPORT

The following SPR has been opened since the last cyclic report:

AATSR Consolidated Products

NA-PR-08-03952

The AATSR Flight Operations and Data Plan (FODP), PO-PL-ESA-AT-0152, Issue 2 Revision 5 dated 22 November 2001 defines the meaning of “consolidated” in Appendix B.1 as follows: “... time-ordered, no overlap nor data gap except when the instrument is not operated ...”, and for Level 0 there should be sufficient overlap only so that the higher level products can be chopped “... ANX to ANX ...”. The FODP is part of the high level agreement between ESA and Defra and so can be taken as the definitive requirement for AATSR products.

5.3.3 CLOSED SPRS

No SPRs have been closed since the last Cyclic Report.

5.4 Monthly Level 3 Product

The following plots have been generated from the available meteo products acquired in September. This consists of 418 orbits from 34009 to 34438. Figures Figure 5.3, Figure 5.4, Figure 5.5, Figure 5.6 show the SST average in dual and nadir views, the standard deviation and the number of contributory orbits.

Please note we are not able to provide absolute colour scales at this time, however the colouring scheme used is given in Figure 5.2 and the data ranges of each diagram are also given.



Figure 5.2 – This is the colour scheme used for the following plots, running from left to right with increasing magnitude.

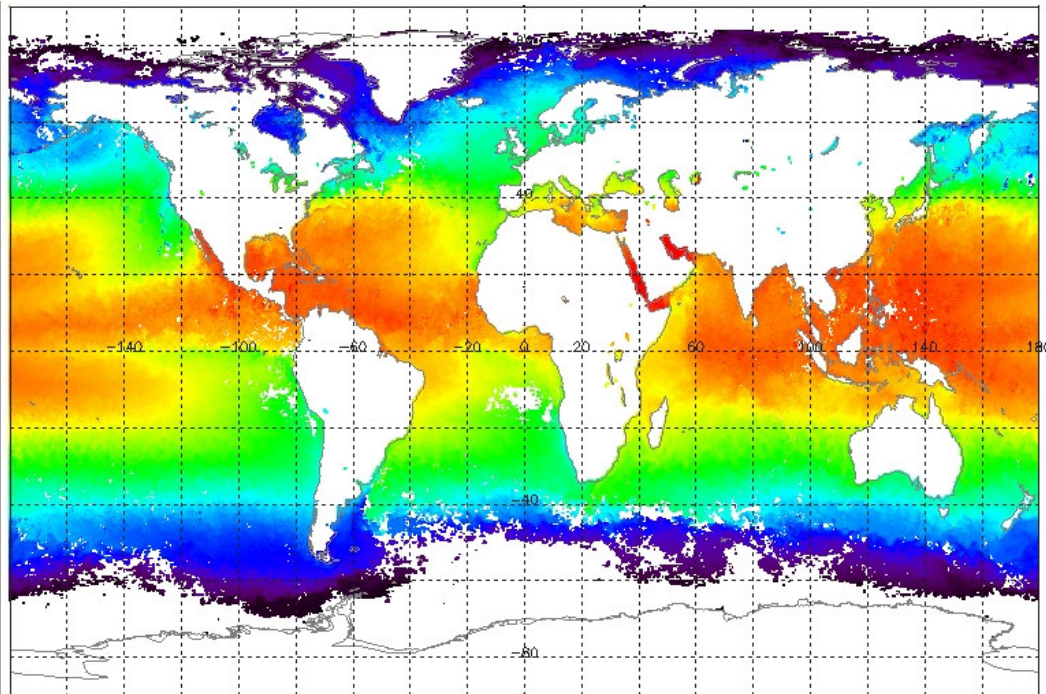


Figure 5.3 - This figure gives the monthly average Dual View SST, with a range of 270 - 305 Kelvin

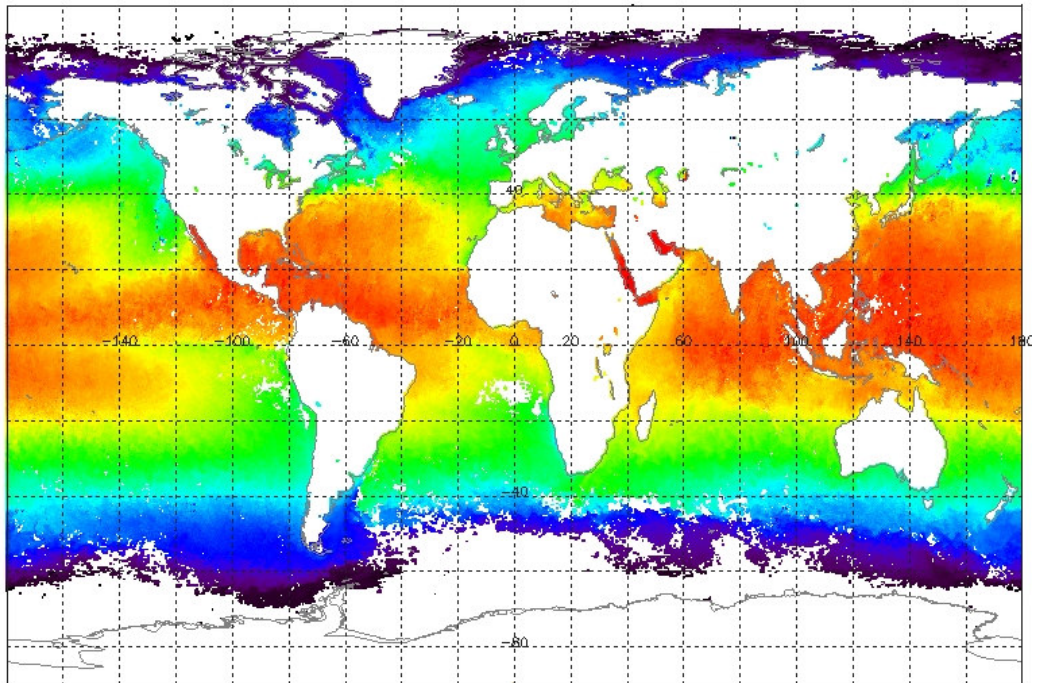


Figure 5.4 - This figure gives the monthly average Nadir SST, with a data range of 270 - 305 Kelvin

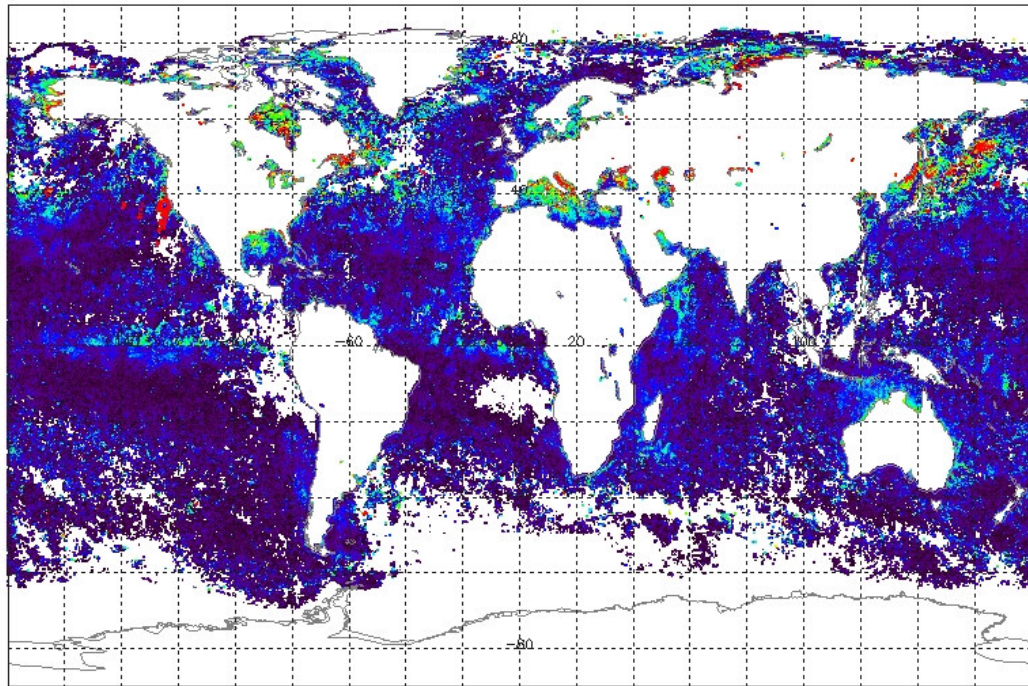


Figure 5.5 - The standard deviation of the monthly average in SST with a data range of 0 to 2 Kelvin

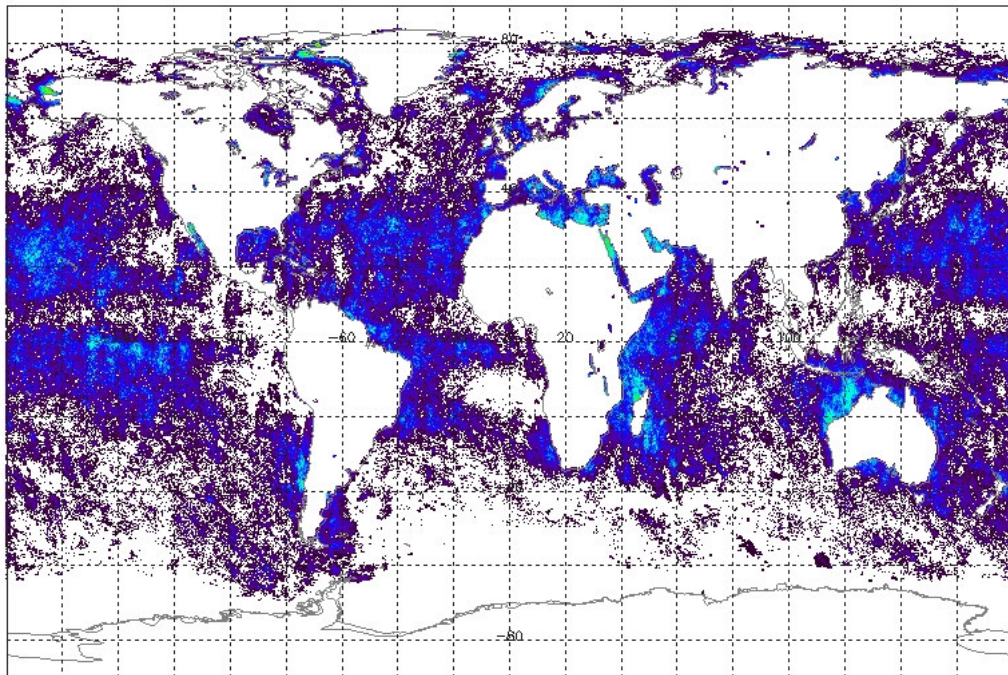


Figure 5.6 – The number of contributory orbits to the calculation of the SST, with a range of 0 to 24

6 CALIBRATION/VALIDATION ACTIVITIES & RESULTS

6.1 Calibration

No additional calibration results were reported during this cycle.

6.2 Validation

No additional validation results were reported during this cycle.

A complete update on the status of the instrument validation can be found in Section 1.6.2 of Cyclic Report 28.

7 DISCLAIMERS

No new disclaimers have been issued during this cycle.