

AATSR Cycle Report

Cycle # 33

13 December 2004, 21:59:29 orbit 14584
17 January 2005, 21:59:29 orbit 15084



This scene, acquired over the southernmost tip of the South American continent on 15 December 2004 - absolute orbit 14606 (relative orbit 23) - shows the Tierra del Fuego. Beagle channel is well visible in the center of image. Cape Horn, partially covered by clouds, is the steep headland on Horn Island.

prepared by/*préparé par* AATSR PCF team and QWG team

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1 THE CYCLIC REPORT #33

1.1 *Acronyms and abbreviations*

AATSR	Advanced Along Track Scanning Radiometer
CR	Cyclic Report
DMOP	Detailed Mission Operation Plan
DMS	Data Management System
EN-UNA-YYYY/#	Envisat Unavailability (plus year and number)
ESOC	European Space Operation Center
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
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/CNTR5-1.htm#eph.aatsr.glossary.acronabbr:nrt>

1.2 *Summary*

Cyclic number: 33

Cycle Start Time: 13-DECEMBER-2004, 21:59:29 orbit stop: 14584

Cycle Stop Time: 17-JANUARY-2005, 21:59:29 orbit stop: 15084

The main activities during the cycle have been the following:

- **Processor L0 and IPF Version:** No changing in the version of AATSR processor for Level0 (5.22). No changing in the IPF version for Level1 and Level2 (5.59).
- **Visible calibration data:** The visible calibration coefficients data (ATS_VC1_AX) are changed regularly during the cycle. These VC1 files are being used within the time criteria set for NRT processing. Off-line data processing is expected to take place within 2 weeks of acquisition. When this is the case the VC1 file used should be +/- 1 day from the date of acquisition (i.e. within specification). If off-line data are generated before 2 weeks from acquisition, this may not be achieved.

- **Data Acquisition:** The data acquisition for the Level0 has been of 98.62% of the whole period, for the Level1 of the 99.83% of the whole period. One unavailability (planned) for the instrument:
- OCM on 7 January 2005 (from 03:00:00 to 13:00:00).
- **Calibration activities:** tbd.
- **Validation activities:** tbd.

1.3 Software version and Auxiliary files version

1.3.1 Software version

AATSR processor for Level0; version: PFHS/5.22

AATSR IPF for Level1 and Level2; version: AATSR/05.59 – delivered on 19th July 2004.

DOCUMENTATION Applicable: PO-RS-MDA-GS-2009 Is. 3 Rev. H

1.3.1.1 Auxiliary file version

This is the list of AATSR auxiliary files.

- ***Browse Product Look-up Data (ATS_BRW_AX)***
- ***L1b Characterization Data (ATS_CH1_AX)***
- ***Cloud Look-up Table Data (ATS_CL1_AX)***
- ***General Calibration Data (ATS_GC1_AX)***
- ***AATSR Instrument Data (ATS_INS_AX)***
- ***Visible Calibration Coefficients Data (ATS_VC1_AX)***
- ***Level1B Processing Configuration Data (ATS_PC1_AX)***
- ***Level2 Processing Configuration Data (ATS_PC2_AX)***
- ***SST Retrieval Coefficients Data (ATS_SST_AX)***
- ***LST Land Surface Temperature Coefficients Data (ATS_LST_AX)***

In this section will be reported the list of the auxiliary files changed in the cycle and for each file will be specified the date and the reason of the changing.

Will be also reported the list of the latest filename for every auxiliary file currently in use by the PDS.

Only the ATS_VC1_AX file is expected to change regularly. These VC1 files are being used within the time criteria set for NRT processing. Off-line data processing is expected to take place within 2 weeks of acquisition. When this is the case the VC1 file used should be +/- 1 day from the date of acquisition (i.e. within specification). If off-line data are generated before 2 weeks from acquisition, this may not be achieved. **(1)**.

Product name	Start validity	Reason of changing
ATS_VC1_AXVIEC2004 ATS_VC1_AXVIEC2005	December, 14, 15, 16, 17, 18, 19, 20, 21, 22, 29 January, 4, 10, 11, 12, 13, 14, 17	(1)

Tab 1.3.2.1: Auxiliary files list changed during the period

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 ATS_VC1_AXVIEC20050117_072008_20050114_182719_20050121_182719 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_AXVIEC20020123_074408_20020101_000000_20200101_000000

Tab 1.3.2.2: Latest auxiliary files currently in use by the PDS

1.4 PDS status

1.4.1 Instrument Unavailability

From 7 Jan 2005 03:00:00.000 (Day of Year = 007, Orbit = 14930, Anx Offset = 3194.351) to 7 Jan 2005 13:00:00.000 (Day of Year = 007, Orbit = 14936, Anx Offset = 2978.783) an OCM was planned.

Start	Stop	Reason	Reference	Planned
7 Jan 2005 03:00:00	7 Jan 2005 13:00:00	OCM	EN-UNA 05/5	YES

1.4.2 Level0 data acquisition and Level1b processing status

In this chapter will be reported the Level0 missing and the data unavailability not planned in the period.

Only the Level1b data not processed starting from the corresponding Level0 will be reported.

The figure below shows the Level0 data missing measurements (yellow line) and the Level1 data not processed starting from the corresponding Level0 (red line) and the unavailability not planned (green line).

Figure 1.4.2.1: Missing measurements during cycle 33.
Yellow line: Level0 missing (PDS failure)
Red lines: Level1 missing

The Level0 data was available the 98.62% of the time during the cycle.
The Level1b data was available the 99.83% of the time during the cycle.
The following tables show the list of Level0 and Level1 lack of data.

UTC Start: start time of the missing acquisition.

UTC Stop: stop time of the missing acquisition.

Duration: duration of the missing acquisition.

Orbit Start: absolute orbit start of the missing acquisition.

Orbit Stop: absolute orbit stop of the missing acquisition.

UTC Start	UTC Stop	Duration (sec)	Orbit Start	Orbit Stop
14-DEC-04 16:43:21	14-DEC-04 16:44:18	57	14595	14595
14-DEC-04 18:19:53	14-DEC-04 18:23:53	240	14596	14596
14-DEC-04 20:00:24	14-DEC-04 20:03:04	160	14597	14597
14-DEC-04 21:10:30	14-DEC-04 21:14:18	228	14597	14597
14-DEC-04 22:47:06	14-DEC-04 22:56:24	558	14598	14598
15-DEC-04 00:29:06	15-DEC-04 00:38:06	540	14599	14599
15-DEC-04 02:04:28	15-DEC-04 02:10:22	354	14600	14600
15-DEC-04 03:25:10	15-DEC-04 03:28:40	210	14601	14601
15-DEC-04 05:06:59	15-DEC-04 05:11:21	262	14602	14602
15-DEC-04 06:47:04	15-DEC-04 06:52:10	306	14603	14603
15-DEC-04 11:17:23	15-DEC-04 11:20:55	212	14606	14606
15-DEC-04 12:57:50	15-DEC-04 12:59:59	129	14607	14607
15-DEC-04 14:36:55	15-DEC-04 14:38:14	79	14608	14608
15-DEC-04 16:12:27	15-DEC-04 16:14:51	144	14609	14609
15-DEC-04 17:48:39	15-DEC-04 17:52:34	235	14610	14610
15-DEC-04 19:29:23	15-DEC-04 19:30:34	71	14611	14611
15-DEC-04 21:09:05	15-DEC-04 21:11:25	140	14612	14612
15-DEC-04 22:17:17	15-DEC-04 22:24:58	461	14612	14612
15-DEC-04 23:58:36	16-DEC-04 00:06:18	462	14613	14613
16-DEC-04 01:37:03	16-DEC-04 01:43:44	401	14614	14614
16-DEC-04 02:54:17	16-DEC-04 02:57:46	209	14615	14615
16-DEC-04 04:36:01	16-DEC-04 04:40:15	254	14616	14616
16-DEC-04 06:15:40	16-DEC-04 06:20:16	276	14617	14617
16-DEC-04 09:08:33	16-DEC-04 09:09:44	71	14619	14619
16-DEC-04 10:47:05	16-DEC-04 10:48:28	83	14620	14620
16-DEC-04 12:25:21	16-DEC-04 12:27:24	123	14621	14621
16-DEC-04 14:06:22	16-DEC-04 14:07:17	55	14622	14622
16-DEC-04 15:43:22	16-DEC-04 15:45:07	105	14623	14623
16-DEC-04 17:16:29	16-DEC-04 17:21:45	316	14624	14624
16-DEC-04 18:56:02	16-DEC-04 19:00:39	277	14625	14625
16-DEC-04 21:49:03	16-DEC-04 21:51:36	153	14626	14626
16-DEC-04 23:24:18	16-DEC-04 23:33:27	549	14627	14627
17-DEC-04 01:04:45	17-DEC-04 01:14:35	590	14628	14628
17-DEC-04 02:22:59	17-DEC-04 02:24:56	117	14629	14629
17-DEC-04 04:03:37	17-DEC-04 05:48:33	6296	14630	14630
17-DEC-04 08:37:32	17-DEC-04 08:38:36	64	14633	14633
17-DEC-04 10:15:52	17-DEC-04 10:17:00	68	14634	14634
17-DEC-04 11:53:44	17-DEC-04 11:55:32	108	14635	14635
17-DEC-04 13:35:35	17-DEC-04 13:35:58	23	14636	14636
17-DEC-04 15:13:04	17-DEC-04 15:14:50	106	14637	14637
17-DEC-04 18:26:07	17-DEC-04 18:29:07	558	14639	14639
17-DEC-04 20:05:50	17-DEC-04 20:08:15	145	14640	14640

17-DEC-04 21:16:07	17-DEC-04 21:19:52	225	14640	14640
17-DEC-04 22:53:20	17-DEC-04 23:03:18	598	14641	14641
18-DEC-04 00:35:48	18-DEC-04 00:42:50	422	14642	14642
18-DEC-04 02:12:23	18-DEC-04 02:19:20	417	14643	14643
18-DEC-04 03:31:22	18-DEC-04 03:34:46	204	14644	14644
18-DEC-04 05:12:36	18-DEC-04 05:17:06	270	14645	14645
18-DEC-04 06:52:56	18-DEC-04 06:58:03	307	14646	14646
18-DEC-04 09:46:03	18-DEC-04 09:46:19	16	14648	14648
18-DEC-04 11:23:52	18-DEC-04 11:25:22	90	14649	14649
18-DEC-04 13:02:29	18-DEC-04 13:05:27	178	14650	14650
18-DEC-04 14:42:35	18-DEC-04 14:44:18	103	14651	14651
18-DEC-04 16:18:05	18-DEC-04 16:22:10	245	14652	14652
18-DEC-04 17:55:06	18-DEC-04 17:58:50	224	14653	14653
18-DEC-04 19:34:34	18-DEC-04 19:35:21	47	14654	14654
18-DEC-04 20:39:14	18-DEC-04 20:45:55	401	14654	14654
18-DEC-04 22:21:28	18-DEC-04 22:31:06	578	14655	14655
19-DEC-04 00:03:34	19-DEC-04 00:11:48	494	14656	14656
19-DEC-04 01:42:13	19-DEC-04 01:49:32	439	14657	14657
19-DEC-04 03:00:09	19-DEC-04 03:02:50	161	14658	14658
19-DEC-04 04:40:56	19-DEC-04 04:45:33	277	14659	14659
19-DEC-04 06:21:29	19-DEC-04 06:26:19	290	14660	14660
19-DEC-04 09:15:12	19-DEC-04 09:15:34	22	14662	14662
21-DEC-04 00:40:32	21-DEC-04 00:49:01	509	14685	14685
22-DEC-04 15:51:34	22-DEC-04 15:56:57	323	14709	14709
23-DEC-04 12:03:51	23-DEC-04 12:07:18	207	14721	14721
26-DEC-04 11:05:17	26-DEC-04 12:11:39	3982	14763	14764
04-JAN-05 20:40:33	04-JAN-05 20:40:48	15	14898	14898
05-JAN-05 10:19:20	05-JAN-05 11:59:02	5982	14906	14907
07-JAN-05 14:14:26	07-JAN-05 15:47:50	5604	14937	14938
11-JAN-05 11:17:23	11-JAN-05 12:09:57	3154	14992	14993

Tab 1.4.2.1: ATS_NL__OP missing data during cycle 33

UTC Start	UTC Stop	Duration (sec)	Orbit Start	Orbit Stop
14-DEC-04 16:51:12	14-DEC-04 18:17:57	5205	14595	14596

Tab 1.4.2.2: ATS_TOA_1P missing data during cycle 33

1.4.2.1 Compromised orbits owing to major bad data quality

No compromised orbits owing to major bad data quality during the period.

1.4.3 Level0 and Level1b backlog processing status

In this chapter a check with respect to the previous cycle is done to verify if the status of the missing data has changed after a backlog processing. In the following tables (showed only if a change with respect to the previous cycle has been detected) will be pointed out three kinds of missing products modified:

- Data gap cancelled: it refers to data gap that was identified in the previous report but hasn't now been detected as a result of backlog processing (red line).
- Duration change of data gap: it refers to data gap/s still exists but that it has got longer or shorter since the last report (green line).
- New data gap: it refers to data gap now filled as a result of a backlog processing (blue line).

The list of data missing during the previous cycle has not changed (see the list in the Cyclic Report #32).

1.5 Quality Control

1.5.1 Monitoring of parameters

JITTER:

SENSOR TEMPERATURE:

VISCAL:

TOTAL NOISE:

NEAT:

1.5.2 Users Rejection

No user complaints during this cycle.

1.5.3 Software Problem Reporting. Potential impact

In this section will be described the SPR open with the potential impact on the data quality, and the SPR closed.

1.5.3.1 SPR open

- Unphysical sea surface temperature values in Level 2 AATSR products from PDHS-E at intervals of 480 rows:
Open – IPF maintainer unable to reproduce the problem. More investigation required.
- 50 / 17 km Cell Size Anomaly in AST product:
Open – IPF maintainer say that there is an extra configuration parameter which could be used to override AST_cell_dimension in the PC2 file, but that when using the default configuration file delivered with the IPF this override function should not be activated. More investigation required.

1.5.3.1.1 New SPRs since the last Cyclic Report

None

1.5.3.2 SPR closed

- Inconsistent values in AST confidence word, 17 km cell:
Investigation completed - to be corrected with a patch at next appropriate opportunity.

1.6 Calibration/Validation activities and results

1.6.1 Calibration

No further information on instrument calibration is reported. The current status of the instrument calibration can be found in Section 1.7.1 of Cyclic Report 20.

1.6.2 Validation

1.7 General information

None