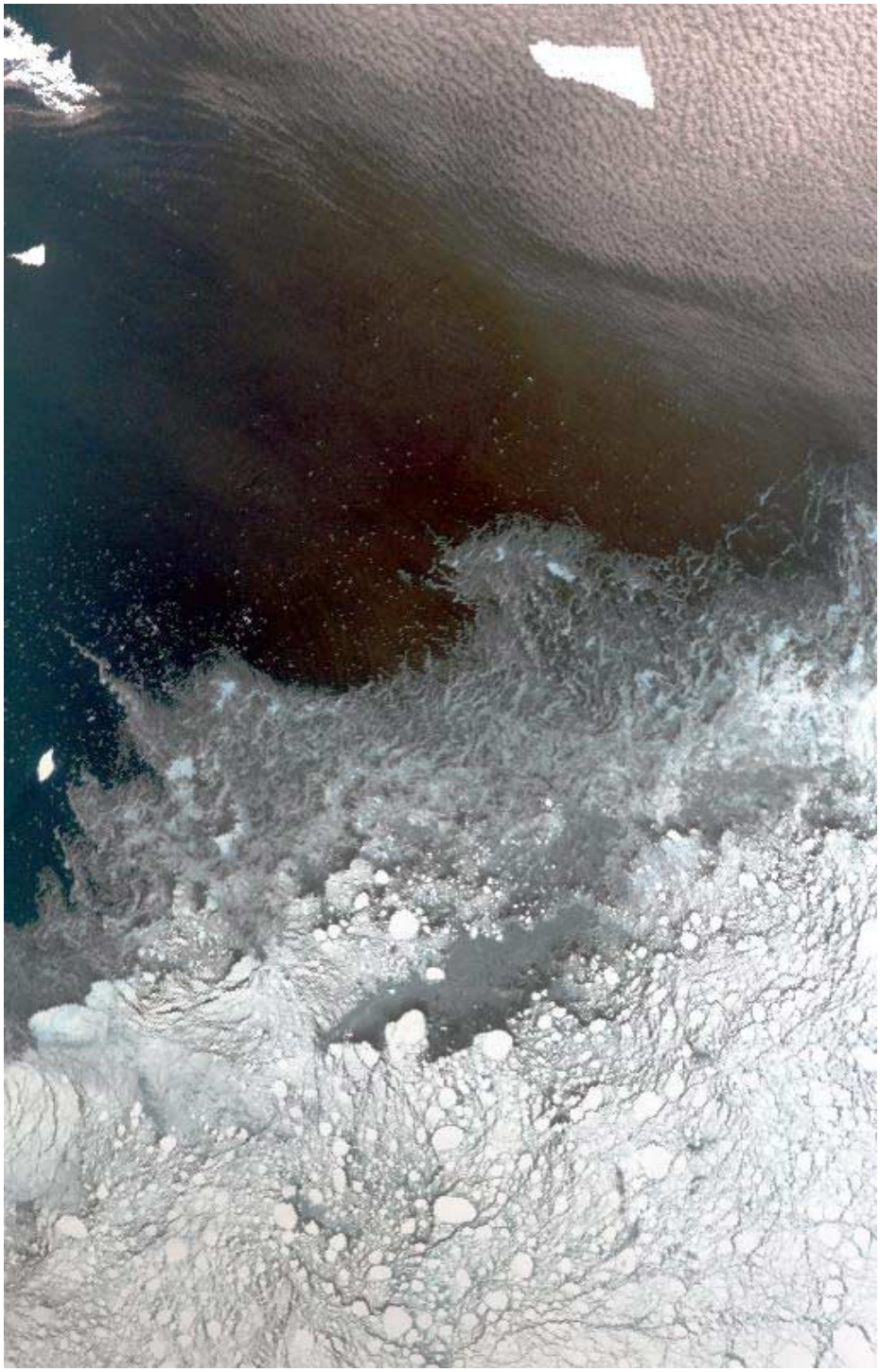
AATSR Cycle Report
Cycle # 19

11 August 2003, 21:59:29 orbit 7570
15 September 2003, 21:59:29 orbit 8070



Scene acquired over Antarctic on 15 September 2003, orbit 8064 (Relative Orbit 495), colour composite (histogram equalised) Red: 0.86um, Green: 0.67um, Blue: 0.56um.
It shows the Antarctic ice in the Scotia/Weddel Sea area. On the top of image it can be seen a big iceberg (iceberg A-44, 70 Km) at a surprisingly latitude. I the top left of the image is the island of South Georgia.

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1 THE CYCLIC REPORT #19

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
IECF	Instrument Engineering and Calibration Facilities
IPF	Instrument Processing Facilities
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: 19
Cycle Start Time: 11-AUG-2003, 21:59:29 orbit stop: 7570
Cycle Start Time: 15-SEP-2003, 21:59:29 orbit stop: 8070

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 and in the IPF version for the Level1 and Level2
- **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 90,44% of the whole period, for the Level1 of the 94,21% of the whole period.
- **Calibration activities**: No updating from the opened activities.
- **Validation activities**: No updating from the opened activities.

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/05.55

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

1.3.2 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)***

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_AXVIEC2003	August, 12, 14, 15, 18, 20, 21, 22, 26, 27, 28 September, 1,2, 3, 4, 10, 11, 12, 15	(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_AXVIEC20020123_073430_20020101_000000_20200101_000000
ATS_INS_AXVIEC20030731_092706_20020301_000000_20070801_235959
ATS_VC1_AXVIEC20030915_182753_20030914_103455_20030921_103455
ATS_PC1_AXVIEC20030430_211727_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

This is a summary of unavailability reports as communicated by ESOC during the period.
The AATSR has been in unavailability status since 4 September 2003 22:52:52.000 (day of year 247, orbit 7914, anx offset= 0437.199) to 7 September 2003 09:55:25.000 (day of year 250, orbit 7949, anx orbit = 1732.719).
The reason was the switch-down of the PLSOL (PayLoad Switch-Off Line)

Start	Stop	Reason	Reference	Planned
4 Sep 2003 22:52:52.000	7 Sep 2003 09:55:25.000	Recovered from PLSOL in Measurement. Ref.: ENV-738	EN-UNA 2003/0257	NO

Tab 1.4.1: AATSR Unavailability during Cycle 19

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).

Figure not available.

Figure 1.4.2.1: Missing measurements during cycle 18.

The total number of missing data is equivalent to 48 orbits on 501 (9.6 %).
The Level0 data was available the 90.44% of the time during the cycle.
The Level1b data was available the 94.21% 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
22-AUG-03 18:11:50	22-AUG-03 19:47:39	5749	7725	7726
23-AUG-03 06:04:17	23-AUG-03 11:06:09	18112	7732	7735
23-AUG-03 12:47:11	23-AUG-03 16:01:17	11646	7736	7738
25-AUG-03 18:16:49	25-AUG-03 19:54:10	5841	7768	7769
27-AUG-03 07:55:27	27-AUG-03 12:20:00	15873	7790	7793
28-AUG-03 08:30:47	28-AUG-03 10:10:13	5966	7805	7806
01-SEP-03 19:35:56	01-SEP-03 21:17:18	6082	7869	7870
04-SEP-03 21:23:56	07-SEP-03 09:55:25	214289	7913	7949
07-SEP-03 11:33:38	07-SEP-03 13:05:15	5497	7950	7951

Tab 1.4.2.1: ATS_NL__0P missing data during cycle 19

UTC Start	UTC Stop	Duration (sec)	Orbit Start	Orbit Stop
13-AUG-03 09:46:18	13-AUG-03 11:14:35	5297	7591	7592
15-AUG-03 03:38:25	15-AUG-03 05:15:20	5815	7616	7617
15-AUG-03 21:57:23	15-AUG-03 23:31:12	5629	7627	7628
16-AUG-03 23:09:37	17-AUG-03 00:41:39	5522	7642	7643
17-AUG-03 02:34:18	17-AUG-03 04:05:29	5471	7644	7645
17-AUG-03 17:33:58	17-AUG-03 22:27:24	17606	7653	7656
18-AUG-03 05:26:20	18-AUG-03 15:14:29	35289	7660	7666
18-AUG-03 20:21:52	18-AUG-03 21:54:04	5532	7669	7670
20-AUG-03 00:57:33	20-AUG-03 02:29:30	5517	7686	7687
20-AUG-03 06:04:40	20-AUG-03 07:36:24	5504	7689	7690
21-AUG-03 10:35:35	21-AUG-03 12:03:19	5264	7706	7707
22-AUG-03 11:42:57	22-AUG-03 13:11:16	5299	7721	7722
22-AUG-03 21:37:09	22-AUG-03 23:11:56	5687	7727	7728
27-AUG-03 22:21:14	27-AUG-03 23:54:45	5611	7799	7800
28-AUG-03 03:29:49	28-AUG-03 05:03:47	5638	7802	7803
28-AUG-03 21:48:39	28-AUG-03 23:22:28	5629	7813	7814
31-AUG-03 03:33:49	31-AUG-03 05:09:29	5740	7845	7846
03-SEP-03 08:46:44	03-SEP-03 11:54:43	11279	7891	7893
03-SEP-03 20:19:03	03-SEP-03 21:52:02	5579	7898	7899
08-SEP-03 14:26:26	08-SEP-03 15:53:35	5229	7966	7967
11-SEP-03 04:30:05	11-SEP-03 06:02:52	5567	8003	8004
11-SEP-03 22:50:50	12-SEP-03 00:24:05	5595	8014	8015
14-SEP-03 01:12:06	14-SEP-03 02:44:09	5523	8044	8045

Tab 1.4.2.2: ATS_TOA_1P missing data during cycle 19

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 table will be point 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 data missing in the tables below are not changed with respect to the previous cycle.

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
11-JUL-03 07:00:40	11-JUL-03 08:37:55	5835	7117	7118
14-JUL-03 21:59:17	14-JUL-03 23:08:59	4182	7169	7169
15-JUL-03 08:14:00	15-JUL-03 09:52:30	5910	7175	7176
30-JUL-03 05:19:11	30-JUL-03 06:59:13	6002	7388	7389
31-JUL-03 19:41:31	31-JUL-03 21:23:21	6110	7411	7412
31-JUL-03 22:44:11	31-JUL-03 23:08:10	1439	7412	7413
01-AUG-03 00:07:25	01-AUG-03 00:49:44	2539	7413	7414
05-AUG-03 02:06:34	05-AUG-03 03:48:13	6099	7472	7473
06-AUG-03 11:41:06	06-AUG-03 13:19:37	5911	7492	7493

Tab 1.4.3.1: ATS_NL__0P missing data during cycle 18.

UTC Start	UTC Stop	Duration (sec)	Orbit Start	Orbit Stop
07-JUL-03 22:25:20	08-JUL-03 03:21:54	17794	7069	7072
08-JUL-03 21:51:28	08-JUL-03 23:25:17	5629	7083	7084
10-JUL-03 00:46:02	10-JUL-03 02:23:07	5825	7099	7100
11-JUL-03 00:14:05	11-JUL-03 01:45:37	5492	7113	7114
14-JUL-03 00:19:18	14-JUL-03 01:51:33	5535	7156	7157
14-JUL-03 05:24:14	14-JUL-03 06:59:43	7159	7159	7160
15-JUL-03 01:29:45	15-JUL-03 04:48:51	11946	7171	7173
16-JUL-03 00:57:23	16-JUL-03 02:35:08	5865	7185	7186
17-JUL-03 23:53:33	18-JUL-03 01:26:11	5558	7213	7214
22-JUL-03 06:15:30	22-JUL-03 07:47:34	5524	7274	7275
23-JUL-03 00:37:12	23-JUL-03 02:09:01	5509	7285	7286
25-JUL-03 11:22:37	25-JUL-03 12:51:29	5332	7320	7321
26-JUL-03 00:43:08	26-JUL-03 02:20:04	5816	7328	7329
28-JUL-03 23:06:46	29-JUL-03 00:38:46	5520	7370	7371
29-JUL-03 17:30:59	29-JUL-03 20:40:42	11383	7381	7383
31-JUL-03 21:23:21	31-JUL-03 22:44:10	4849	7412	7412
31-JUL-03 23:11:02	01-AUG-03 00:07:25	3383	7413	7413
01-AUG-03 00:49:44	01-AUG-03 05:51:36	18112	7414	7417
01-AUG-03 22:39:16	02-AUG-03 02:00:19	12063	7427	7429
02-AUG-03 13:50:40	02-AUG-03 15:19:02	5302	7436	7437
02-AUG-03 22:07:28	03-AUG-03 06:28:24	30056	7441	7446
03-AUG-03 21:34:15	04-AUG-03 05:57:22	30187	7455	7460
04-AUG-03 22:45:19	05-AUG-03 02:06:34	12075	7470	7472
05-AUG-03 03:48:13	05-AUG-03 05:24:40	5787	7473	7474
05-AUG-03 22:12:14	06-AUG-03 06:34:07	30113	7484	7489
06-AUG-03 21:39:39	07-AUG-03 06:03:01	30202	7498	7503
07-AUG-03 22:50:50	08-AUG-03 03:54:33	18223	7513	7516
08-AUG-03 22:18:15	09-AUG-03 05:01:07	24172	7527	7531
09-AUG-03 21:45:44	10-AUG-03 06:08:42	30178	7541	7546
11-AUG-03 00:39:32	11-AUG-03 02:18:45	5953	7557	7558

Tab 1.4.3.2: ATS_TOA_1P missing data during cycle 18

1.5 Quality Control

1.5.1 Monitoring of parameters

***JITTER**:*

The average scan-mirror jitter rate during this cycle was 0.01 jitters/sec or better, and on most days it was 0.00 jitters/sec.

***SENSOR TEMPERATURE**:*

All sensors maintained their nominal orbital and seasonal ranges except during the platform outage (September 05 to 07).

***VISCAL**:*

Reflectance channel calibration files (ATS_VC1_AX) are available for most days of the cycle except during the platform outage and the following days: August 18, August 26, September 03 and September 13. Nominal viscal characteristics were observed throughout the cycle.

***TOTAL NOISE**:*

Total noise in the thermal infrared channels, as represented by the standard deviation of the black-body signal in each channel, was nominal throughout the cycle.

NEΔT:

Info unavailable.

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

In this section will be reported the list of SPRs.

1.5.3.1.1 Existing SPRS that are still open

- *RAL SPR 15*

    - The Operational Processor sets the Record Quality Indicator incorrectly.
    - It is unclear whether or not the processors should omit MDS records in granules for which the attachment flag is set.

- *RAL SPR 16*

  Missing VISCAL GADS in L1b IPF products.

- An observation about the change to the null value for dsr_time used in the AST and Meteo products.

- *Empty child product.*

  Some child products extracted from Level1b (TOA) product has unexpected exceptional values in the data set.

- *RAL SPR17*

  Empty SST % Cloud Coverage 50KM.
  In Level2 AR product (averaged product) Sea Surface Temperature (SST) the cloud coverage percentage is set to 0 for the 50KM cells. The cloud top temperature fields in the 50 km AST cell records are also in error.
  It does not happen for the 30arc minute cells.

- *RAL SPR 18*

  The NDVI in the 50 km AST cell records is not consistent with the 30 arc minute cell values from the same region. This turns out to be because an incorrect exception value is being used for the mean NDVI and for the standard deviation of NDVI in the 50 km AST cell records.

The value -1 is being used in place of the correct exception value of -19999. Thus although the NDVI data is correct where it is valid, the incorrect exception value means that invalid NDVI values in the 50 km cells could be mistaken for valid data.

1.5.3.1.2 New SPRs since the last Cyclic Report

- *None*

1.5.3.2 SPR closed

The SPRs 17 and 18 will be fixed in the next version of the processor, planned in middle of November.

All other SPRs are currently still under investigation

1.6 Calibration/Validation activities and results

1.6.1 Calibration

No updating from the opened activities.

1.6.2 Validation

No updating from the opened activities.

1.7 General information

A MERIS/AATSR Validation Team meeting will be held at ESRIN on October 20-24. The results from the validation team will be presented.