ATSR Core Group

Summary of the 16th meeting, held on 4 November 1999 at the Space Research Centre, University of Leicester

Present:

Prof D Llewellyn-Jones (Univ. of Leicester) - Chairman
Dr S Briggs (NERC)
Dr B. Candy (UKMO)
Dr P Goryl (ESRIN)
Mr T Guymer (SOC)
Mr N Houghton (RAL)
Dr S Laxon (UCL)
Dr P Lecomte (ESRIN)
Dr B Maddison (RAL)
Dr C Mutlow (RAL)
Dr J Settle (ESSC)
Mr AJ Underwood (NRSC)
Dr S Wilson (NERC)
Mrs A Jolly (NERC) - Secretary

Apologies:

Dr I Barton (CSIRO)
Dr A Harris (UKMO)
Dr C Johnson (DETR)

ESA Status Report

Status of spacecraft ERS-1 lost 40% of its solar array in December 1997, with the result that only one sensor (SAR, ALT, SCAT or ATSR) may be operated at a time. ESA hope to make some adjustments which may improve this situation slightly, to allow the simultaneous use of two instruments.

While operating well generally, ERS-2 is suffering from noisy gyros. New software is to be applied during December/January to improve this. ESA do not expect this to impact on the performance of ATSR-2, although it may decrease the quality of SAR interferometry. RAL have concerns that this may well affect the quality of ATSR-2 geolocation. ESA hope to keep the satellite and its instruments operating for the next 2 years, to achieve ENVISAT intercalibration. The deterioration of all but one gyro may be the determining factor in this. If instead intercalibration of ENVISAT has to be done with ERS-1, operating only one instrument at a time, DOSTAG will have to decide which instruments take priority. The ACG intend to formalise their request for triple cross-calibration (ERS-1, ERS-2, ENVISAT) of ATSR instruments, which will enable evaluation of blackbody deterioration in the older instruments. This will be included in the ENVISAT calibration/validation plan.

ERS-2 operations ERS-2 will be powered down for 2 days during 17-18th November because of the Leonids storm, and over the Y2K period from 31st December until 2nd January.

LRDAF Operation Retranscription began on 17th May at Fucino, at a rate of 22 orbits per day, beginning with phase C (14th April 1992). One sensing day of ERS-1 data is transcribed to DLT and RASTR data to exabyte. Data to 6 December 1992 has been transcribed (approximately 3300 orbits) and 230 DLT/Exabytes have been provided to RAL. The ATSR Browse System (ABS) has been installed at Fucino and browses provided to MUIS ATSR-1 quicklook and catalogue. Hardware has been purchased for a second transcription system, planned to be online by March 2000. Two systems would produce 50 orbits per data, which would complete ERS-1 transcription by March 2001.

TSS NRT Service 10 orbits acquired. All GBT/ASST have been processed, and GSST over the Mediterranean Sea and Indian Ocean. Between 30th June and 1st October 1999, 21 Gbytes GBT, 25 Mbytes GSST and 156 Mbytes ASST. 43 users have accessed it from: USA, UK, Germany, Italy, France, Australia, Sweden, Denmark, Belgium.

ATSR MUIS access The number of accesses from individual computers has been logged as:

May 99:	102
June 99:	90
July 99:	58
August 99:	52
September 99:	87

The spread amongst countries was: 1 Austria, 11 Australia, 4 Belgium, 4 Brazil, 3 Canada, 6 Switzerland, 1 China, 3 Denmark, 3 Spain, 1 Finland, 6 France, 1 Greece, 1 Honduras, 44 Italy, 1 Israel, 1 Luxembourg, 1 Mexico, 4 Netherlands, 5 Norway, 1 French Polynesia, 2 Romania, 1 Russia, 7 Sweden, 1 Singapore, 2 Thailand, 1 Turkey, 1 Ukraine, 34 UK, 1 Venezuela, 1 US Military, 32 USA, 103 unknown (.net, .com, ip number).
ESRIN did not know how these compared with other instruments.

ATSR ASST Web Service This is now operational at http://jupiter.esrin.esa.it/asst and gives access to the daily updated global map (and anomaly) and the monthly global mean SST (and anomaly) from Tromsø (1 tar file per day). It provides 3-D images from the SST and altimeter (not in real-time), and animation of the monthly mean SST, anomaly and 3-D maps. Information is also given on the instruments and products. There are links to RAL, TSS and Delft University. During October, 408 computers have accessed the site.

Special EOQ in March on ATSR - Issue 65 This special edition of Earth Observation Quarterly will also carry RAL's ATSR promotional flyer, and has a wide circulation list. It will contain a number of articles covering: general overview and status, Tromsø services, ASST services, "fire" services, 3 science area reports (land, sea, atmosphere) and a report of the workshop held in June at Frascati.

UK- PAF processing figures NRSC provided figures showing the level of orders for ATSR-1 and ATSR-2 data. No commercially sensitive information was given. It was interesting to see how much ATSR-1 data is still being ordered. ESRIN were asked how an order is processed, and they replied that it may be split up into a number of orders, and there is a delay of no more than 1 week before passing the request on to NRSC. NRSC reported that some commercial users may be reluctant to order from NRSC because of (unfounded) fears about commercial confidentiality. However, NRSC subcontracts the operational side of the PAF to SERCO, so the business side of NRSC receives no feedback on other companies' activities.

RAL Progress Report

Quarterly Report RAL have made good progress this quarter, as presented in the Quarterly Report (ACG.104 & ACG.105). Only significant extra points raised are noted here.

The switchover to the new set of web pages should take place around Christmas. Within the rewrite of the web pages, RAL are upgrading which browsers are compatible with the ABF, and these will be noted on the web pages.

RAL will be liasing with other parties to define the calibration and validation plan in the near future.

Data request levels have varied throughout the last year, rising in the 1st quarter of 1999, only to fall again in the 2nd and 3rd quarters, so no trend is evident.

RAL have produced an excellent promotional flyer to highlight what ATSR is, what its uses are and how to obtain the data.

About 4 days of ATSR high bit rate data have been placed online.

RAL have written to PSI Geomatics and ERDAS, asking about the possibility of including ATSR data as a supported file format in their image processing software packages (as has happened with ENVI). As yet, no reply has been received.

RAL have placed an “advertisement” for researchers interested in using SISTeR on the ATSR website. No response has yet been received.

The first part of a logbook of events which may affect the data has been mounted on the website. The new website, which is being developed in parallel to the existing one, will contain a log of all the engineering changes which occur from now on, and these will be posted to the website automatically. RAL have begun to add past changes, and this should be completed within the next few weeks. The ACG asked that there also be a similar log for software changes. RAL agreed to report at the next meeting on progress with these “logbooks” of software and engineering events which may affect the data.

ABF Status In the end, the problem with the ABF was not due to a fault in the jukebox. The software has been completely rebuilt and remounted, including a software update which has better diagnostics. The ABF is now running at 5x real time and 4 CDs have been written. The problem is believed to have been resolved. The missing data which was reported at the last meeting falls mainly (90%) within a 6 week period in October/November 1998 when data was lost from an internal disk. It is relatively straightforward to ingest this data, which will be done shortly. RAL will give a statement on the residual missing data from the ABF at the next meeting. As a result of the ABF activity this quarter, RAL now have a better understanding of how the whole ABF system operates and how the parties involved should interact. Good points of contact have been established, and the improved diagnostics in the software should help with communications. The ACG would like to learn statistics on users using the ABF, so RAL will investigate what feedback information can be obtained.

NA URU campaign and SISTeR A short presentation was given showing how well SISTeR performed in comparison with the University of Miami instrument M-AERI (see §3.3.2 of the quarterly report). These results are accessible at *** Brian to let me know how/where***.

Product Control Board (PCB) Report

The PCB has not met since the last meeting, but sought guidance from the ACG on how to proceed with implementing Peter North’s atmospheric correction, Phil Watt’s cloud retrieval and cloud clearing over land.

Chris Mutlow will set up a group to consider cloud clearing over land, and to present its recommendation to the ACG.

Chris Mutlow will discuss the atmospheric correction algorithm with Peter North and report back to the next meeting with a proposal for its implementation.

Phil Watts’ cloud retrieval algorithm would need considerable manpower to develop it for implementation. RAL can already apply this algorithm on an ‘ad hoc’ basis, but not as a service to users. No recommendation was made.

“Intercomparison kit” project

The intercomparison kit is ready for distribution. This will go ahead when the accompanying letter is finalised, which sets out the conditions of use.

EUMETSAT

Trevor Guymer reported back on a meeting between himself (as Chairman of the EuroGOOS Space Panel [ESP]) and EUMETSAT. EUMETSAT wish to broaden their remit, which already includes climate monitoring, to include operational oceanography. ESP has agreed to help EUMETSAT make the case for including operational oceanography as an optional programme by 2002. JASON-2 (due for launch 2005) may prove to be a test case, with the aim being to maintain continuity of instruments. ESP agree that it would be beneficial for EUMETSAT to take on this responsibility, but other member states need to be encouraged, and ESP can help them to reach more oceanographers. A one-and-a-half day conference is planned for up to 150 people in Darmstadt next year to promote this idea. Stephen Briggs added that while EUMETSAT are keen to take on this extra role, UK meteorological services do not have a similar remit, and so it may be difficult to fund it, which is why it is preferred that the programme be optional. It is worth noting that there may be space on the AVHRR follow-on satellite for

an ATSR-type instrument. He also noted that an initiative exists called IGOS (Integrated Global Observing Strategy). A proposal (NASA, CNES, NOAA and NASDA) submitted to CEOS to develop an oceans theme within IGOS includes references to ATSR, and no other SST instrument. This indicates that there is a need for international operational oceanography, which is beginning to be recognised, and that ATSR-type instruments have a role to play.

AATSR Current Status

As reported previously, the AATSR instrument is now with ESA. Contractual arrangements are now being made for its post-launch support. RAL have a prototype processor, which is very good, and ESA are developing an operational processor. A collocation test of the processors is going well. A Swiss company is testing the cloud clearing algorithms on both systems, which should be complete by the end of the year.

DETR and University of Leicester are about to appoint a Validation Scientist (reporting to Prof. Llewellyn-Jones), to coordinate all aspects of validation activities. At later stages, different individuals will have responsibility for different science areas (e.g. land, oceans, etc.).

Next Meeting

The next meeting will be held on **Thursday 20th January** at **Rutherford Appleton Laboratory**.