

ATSR Core Group

Summary of the 15th meeting, held on 20 July 1999 at the Space Research Centre, University of Leicester

Present:

Prof D Llewellyn-Jones (Univ. of Leicester) - Chairman	Dr C Mutlow (RAL)
Dr S Briggs (NERC)	Dr K Pearson (DETR)
Mr T Guymer (SOC)	Dr R Saunders (UKMO)
Dr A Harris (UKMO)	Dr J Settle (ESSC)
Mr N Houghton (RAL)	Mr AJ Underwood (NRSC)
Dr B Maddison (RAL)	Dr S Wilson (NERC)
	Ms A Morrison (NERC) - Secretary

Apologies:

Dr I Barton (CSIRO)
Dr P Goryl (ESRIN)
Mrs K Hutchins (NRSC)
Dr S Laxon (UCL)

ESA Status Report

No ESA representatives were present at the meeting, but Philippe Goryl submitted a report (ACG.98) by email. Noted here are additional comments from ACG members.

ATSR Workshop (Frascati) ESA summarised the main points coming out of the meeting. These are discussed in more detail later. One point raised was that a user reported a co-location problem, and that this needed investigating. RAL have found that this may be arising from ESRIN providing data with incorrect orbital elements. RAL will need to discuss this further with ESRIN to ensure the problem does not re-occur.

It was pointed out that ESA had not picked up on the concern raised at the meeting about the continuity of ATSR-quality data beyond AATSR. A meeting is to be held at the UK Met Office on 9th September to allow discussions between EUMETSAT and the UK oceanographic community regarding their requirements. It would be good to have a reasonable turn out of ACG members at this to support the case for follow-on ATSR-quality instruments.

Tromsø NRT Service RAL now have a programme to concatenate the NRT scenes on various platforms. This will be available from the ATSR web pages in the next few days.

RAL Progress Report

RAL have made good progress this quarter, as presented in the Quarterly Report (ACG.96 &97).

RAL agreed to talk to other image processing software producers about the possibility of including ATSR data as a supported file format, as has been agreed with IDL/ENVI.

The continuing uncertainty over the ESA DECNET link and possible transference to TCPIP is not acceptable. While it makes sense from an IT point of view to make the change, from an ATSR-1 and -2 point of view, it would require 4-6 man-months of effort to rewrite the RAL code. RAL will contact ESA and ask for assurance that the DECNET link will be maintained throughout the ERS missions.

The ACG had several questions about the SISTeR-2 instrument. RAL explained that it was intended as a clone of the first instrument, with corrections to electronic faults, etc.. It is intended to make developments and improvements, such as waterproofing the instrument, as part of a longer term plan.

It emerged from the report and ACG discussion that more people need to be trained in SISTeR's operation and maintenance, to free up Tim Nightingale for higher level development work. The ACG asked RAL to "advertise" on the website for researchers who were seriously interested in collaborative validation and training in SISTeR's operation. Such trainee's could include postgraduate students.

On 19 July, ESA advised RAL that some LRDAFs may have missing passes. If RAL detect these, they will pass them back to ESA for retranscription again.

RAL have identified that some files are missing from the ABF, and have found that this could be as many as 180 000 products (1.5 million are held in the ABF at present). The extent of this problem, and the timescale to remedy it will be reported at the next ACG meeting.

Around 2000-2500 web hits are recorded per month, many of which are from US addresses.

Product Control Board (PCB) Report

Chris Mutlow presented an overview of the PCB meeting held on 7th May.

Terms of Reference (ToR). It was agreed that the role of the PCB was to provide high level guidance to the ACG, not the detail of algorithms. To allow this, they suggested that the an extra bullet point should be added to the ToR to allow the PCB to set up *ad hoc* algorithm groups of an ephemeral nature to provide detailed advice as required. It was also recommended that the PCB should meet twice a year and report to the ACG following each meeting. The ACG agreed that the ToR be changed to allow *ad hoc* groups to be set up, and endorsed the PCB's approach to carrying out these ToR.

SST retrieval coefficients. ASST and ABT products were discussed, and the following recommendations reached. The ABT products should be split into further sub-sets (e.g. clear-only data). Monthly averages should be produced, but further discussion is necessary on this. *Post hoc* cloud screening needs further investigation. Continuation of the SST algorithm development work is supported. A new across-track band scheme and increased ABT precision should be incorporated into AATSR processing.

Non-thermal channels. Data utilisation issues were discussed, and recommendations for improving ease-of-use are: better cloud clearance over land; inclusion of a topographic correction; improvement of the already good geolocation and co-location; better bad data flagging.

Atmospheric correction of non-thermal channels. Peter North (ITE) presented his very impressive atmospheric correction work. The PCB recommends that this and Phil Watts' cloud retrievals should be implemented. It was also proposed that an *ad hoc* group be set up to look at the subject of cloud clearing over land. Proposed membership is – Chris Mutlow, Phil Watts, Peter North, Andrew Birks, Andy Harris, Richard Smith and Alan Stevens.

"Intercomparison kit" project

RAL have processed 3 months of data match-ups and written an accompanying report. They are now ready to distribute this data. Eight groups have been identified as likely to be interested.

As it is necessary to ask the recipients to agree to provide feedback on what they do with the data, a document is needed which explains what our objectives are, and what is required of them in return. The document should explain that this is a promotional activity, and is also to help with algorithm testing, and that we would like them to use the data, meet some of our objectives and report back on what they have done. When this document has been drawn up, the kit will be mailed out.

It was agreed that it would be good to hold a workshop to present and compare the outcome from the different groups who use the data set.

Promotion of ATSR

a)June '99 International User Group meeting - feedback

The Frascati meeting was felt by all to be very successful. ESA and ATSR Project Team cooperated well in organising the meeting, despite poor advance promotion by ESA. There were more than 90 participants, with 50 talks and 10 posters.

The meeting highlighted the problems in keeping users informed about instrument operations (jitters, outgassings, etc.), HR and LR operations, visible calibration status, algorithm status, reprocessing status, campaign planning. RAL would like to make this information available on the web, but find it difficult to put it there in a digestible form.

While geolocation and co-location of ATSR data is normally extremely good, some errors were reported in Frascati, and these are being investigated. These problems may be resolved by improved co-ordination between ESA and RAL. Topographic correction is needed for land work. There are also some difficulties with the UBT products.

Other issues which were raised at the meeting were: AATSR Validation; whether the climate community require skin or bulk temperature; how ATSR/AVHRR data should be merged; how cloud and aerosol products will be added into the main operational processing; how to promote wider use of ATSR data. Another recurring theme in many talks was the issue of cloud contamination – this should be a key point for intercomparison kit investigators to consider.

b) User Guide and ATSR Reference Handbook

The updated User Guide is now on the web. While RAL remain open to suggestions for additions, modifications and clarifications, this is essentially the finished document. The Reference Handbook, also on the web, has been unchanged in its “final form” for some time, and it is not intended that this document will change. The SADIST format documents are currently being reviewed and updated.

c) Post-AATSR?

The AATSR SAC discussed whether ATSR-quality data will be available beyond AATSR. Various schemes are possible, but nothing concrete has been set in motion. The ACG should be concerned about this now, if continuity is to be ensured.

EUMETSAT is taking on responsibilities for climate satellite programmes as well as weather satellites, and so might be interested in flying an ATSR-type instrument. It may also be worth considering in the future that AVHRR would be replaced by a radiometer with a scanning facility. Trevor Guymer is particularly interested in this issue (AATSR follow-on) as the Chairman of the EuroGOOS Space Panel (ESP). EUMETSAT has called a meeting with UK oceanographers in September to discuss what it could provide for operational oceanography. Trevor is also trying to arrange a meeting between the Director of EUMETSAT and ESP immediately before this, and would be pleased to bring up this issue with them. Stephen Briggs also agreed to bring this up with the EUMETSAT Director (Tillmann Mohr). Both will report back to the next ACG meeting.

Stephen Briggs has received a letter from David Warrilow (Head of Global Atmosphere Division, DETR), asking what NERC's needs are beyond AATSR. Dr Briggs would like to hear our views. If an instrument is to be flown on Metop, it needs to be wide-swath. The ACG agreed that interest in process studies will continue in the future, and will need continuing data coverage, not just an archive. A wide-swath version of a scanning radiometer could raise further interest from the community. For climate studies, ATSR data is greatly superior to AVHRR at times of volcanic aerosol, and for completeness of data at these times an ATSR-type instrument is needed.

AATSR Current Status

AATSR has been delivered and integrated on to ENVISAT. The launch date is still officially November 2000.

Next Meeting

The next meeting will be held on **Thursday 4th November** at the **University of Leicester**.