

Minutes of NCEO-ORAC meeting, 16th June 2009, 10 am, RAL

Present: Chris Arnold, Don Grainger, Haiyan Huang, Caroline Poulsen, Andy Sayer, Andy Smith, Richard Siddans, Gareth Thomas

1. Minutes of previous meeting

- Chris Merchant and Andy Harris are heading a 'research network' for optimal estimation SST; Don has made contact with this.

2. GRAPE/GEWEX status

- Barry says that the GRAPE machines may have to be removed at the end of the year. This is consistent with finishing the AATSR processing but if there is a problem Don will negotiate about this. This should just about be enough time to process the rest of GRAPE version 3. If there are problems with the timing of processing it may be possible to use part of the RAL cluster.
- Andy (Sayer) has fixed the ice water path bug in GRAPE level 2 files locally and is transferring them over to the GRAPE cluster. By the next meeting he will also fix the level 3 files, update the product user guide, and ask the BADC to update/inform users when this has been done.
- Chris is rerunning the GEWEX code with the fixed ice water path, and will regrid MIPAS data after consultation with Anu about resolution. To be done by Friday 26th June.

3. GlobAerosol status

- Gareth has found an offset in visible channel radiances between ATSR-2 and AATSR, with AATSR higher. Also, some of the ATSR-2 .E2 files are in low data mode (8-bit) with digitisation issues for bright TOA reflectances. Comparison of monthly mean optical depths can lead to differences of ~0.01-0.05, with AATSR generally higher; it is not clear how much this is due to calibration, and how much due to missing channels and so forth (which can also impact on cloud flagging and speciation).
- Don to prompt GMV about arrangements for next GlobAerosol meeting (15th July).
- Caroline presented comparisons of aerosol optical depth time series for Johannes Quaas' 14 regions from various sensors. Generally GlobAerosol looks good, however some oddities in South Pacific Ocean ('SPO' region) and over land from 2007 onwards.
- Don suggested doing aerosol effective radius comparisons against MODIS to see if we are in any sort of agreement. Caroline offered to do this.

4. Student progress

- Chris showed a selection of plots from his GlobCloud poster: time series of cloud properties and a comparison of nadir view/forward view cloud retrievals. Also is writing his first-year report and reading the papers on AVHRR multi-layer cloud detection previously circulated by Caroline.
- Andy (Smith) is looking at the effect of soil type and relative humidity on the optical properties of desert dust aerosol. Soil type changes the real part of the refractive index in the visible in the range ~1.5-1.6 but is less important for the imaginary part. Relative humidity may have a bigger effect, especially for large particles, but this work is preliminary.
- Haiyan has been looking at the sensitivity of IR brightness temperatures of AATSR to trace gases using the RFM. To achieve an error of better than 0.2 K it looks like both water vapour and nitric acid will have to be accounted for.

5. Potential MPhys projects for 2009-2010 academic years.

- Please send suggestions to Andy (Sayer) by 1st July. Potentially up to 2 projects total offered, one each for Andy (Sayer) and Gareth.
- Discrimination between snow, sea ice and cloud: was also suggested for Haiyan to work on at the ORAC planning meeting. We would probably want this sooner than the MPhys timeframe. Perhaps Chris should start researching this soon instead?
- Detection of fires in daytime ATSR orbits.
- Extension of Andy's SVD method for adjusting surface reflectance to also do IR surface emissivity.

6. Further issues arising from ORAC version 4 planning meeting

- None yet; any comments on previously-circulated minutes by Friday 19th June.

7. Publications

- GRAPE aerosol algorithm: awaiting reviewer comments (AMT).
- GRAPE aerosol validation/trends: almost done.
- GlobAerosol trends: in progress.
- Cloud algorithm: begin edited after previous round of comments.
- Cloud validation: no progress
- Land surface/Amazon: in progress; unfortunately looks like AATSR cloud flag removes a lot of biomass burning events. Andy (Sayer) aims to circulate draft by Monday 22nd June.
- Elisa SEVIRI IR retrieval: awaiting comments.
- Elisa desert intercomparison: in progress; awaiting input from groups.

8. Any other business

- Gareth, Haiyan and Andy (Sayer) to come to RAL on Friday 26th June to look at Richard's cloud model code and see about adapting it to dual-view ATSR retrievals.
- Don and Gareth to develop and circulate a consistent notation scheme for our papers following Clive's book and earlier discussions on the radiative transfer model.
- Don to circulate by Friday 19th June a template for acknowledgements in our papers.
- Bojan Bojkov contacted Don about participating in a consultation meeting (Geneva, 21st-22nd August) for a forthcoming ESA DUE project about satellite data products to be of potential use in developing an early warning dust storm system. Decided that it is probably too tangential to our interests so we will not attend.

9. Date of next meeting

- Tuesday, 21st July 2009, 10 am, AOPP Brewer Room. Andy to book.