

MODIS TECHNICAL TEAM MEETING

**Building 33, Room E125
July 07, 2000**

Vince Salomonson chaired the MODIS Technical Team Meeting. Present were Mark Domen, Wayne Esaias, Dorothy Hall, Steve Kempler, Ed Masuoka, Bruce Ramsay (NOAA), Mike Roberto, and Eric Vermote. Meeting minutes were taken by Mike Heney.

1.0 SCHEDULE OF EVENTS

PI Processing Meeting GSFC	Wednesdays at 3 PM [Note new time]
COSPAR 2000 Warsaw, Poland	July 16–23, 2000
COSPAR/IRS Joint Symposium Warsaw, Poland and St. Petersburg, Russia	July 21 and July 24, 2000
IGARSS 2000 Honolulu, HI	July 24–28, 2000
IRS-2000 St. Petersburg, Russia.	July 24–29, 2000
EOS/SPIE Symposium on Remote Sensing Barcelona, Spain	September 25–29, 2000
SPIE's Remote Sensing Japan 2000 Sendai, Japan	October 9–12, 2000
VENICE-2000 (Oceans from Space) Venice, Italy	October 9–13, 2000
Ocean Optics XV Monaco	October 16–20, 2000
PORSEC 2000 Goa, India	December 5–8, 2000
AGU Fall Meeting San Francisco, CA	December 15–19, 2000
Aqua Launch	December 21, 2000

2.0 MINUTES OF THE MEETING

2.1 Instrument

Mike Roberto noted that the focal plane temperature is slowly increasing on Terra's MODIS instrument. There is a suspicion that this is being caused by the Space View Door not being completely open – the fully open position is 95 degrees. SBRS is doing a thermal analysis based on a 75 degree door angle. The goal is to understand where the door is based on telemetry and analyses, although conflicting results are possible.

The rate of temperature increase has lessened, but the temperature has not yet begun to go down. The maximum beta angle occurred June 5-6; as this angle decreases, the solar thermal load on the spacecraft will go down – it is hoped this will reduce the focal plane temperature, but that has not yet begun to happen.

Possible mitigation activities, once the analyses are complete and a better understanding of the situation is in hand, include trying to slowly open the door to try and reduce the temperature. Bruce Guenther is also considering an outgassing activity if the door turns out not to be the problem; this would address the possibility that ice had built up somewhere in the instrument. Another possibility would be to turn off the heater circuit in case there is an “electrical leak”: causing the heater to not completely turn off.

Theories as to why the door might be in the wrong position include mechanical or electrical couplings within the instrument. Mechanical couplings between the space view door and the solar diffuser door would be vibration-related; electrical couplings could be attributed to crosstalk or capacitive coupling somewhere in the electronics systems.

2.2 Data Systems

Steve Kempler noted that one of the DAAC's biggest obstacles to processing data has been problems getting data flowing from EDOS. Data is being processed as it is received; some processing is waiting on EDOS to retransmit data. Special requests from Ed Masuoka are being processed, and John Barker's calibration work is being supported at a level of about 1/2 an FTE for 6 months. Vince Salomonson noted that everyone is comfortable with moving to Side B except for the project; Barker's work will make it easier to argue the case for the switch.

Operationally, Kempler had received PGE03 on Thursday, and is getting that in to operations. The granule from Day 102 for Wayne Esaias is ready, and the DAAC has made contributions to the MODIS Direct Broadcast effort.

Ed Masuoka noted that he has met on several occasions with EDOS to talk about missing MODIS days; the fact that ASTER production is ramping up is pushing things even farther behind. One complicating factor is the size and amount of processing required for MODIS data. When competing for processing (or reprocessing) time against the other instruments, finding a large enough time chunk puts MODIS at a disadvantage. In addition, errors in EDOS processing (including a bit flip in the readout causing granules to drop out) are being passed

downstream to the DAAC rather than being fixed at EDOS; this impacts the amount of usable data at the DAAC. A request for 4 priority days of MODIS data went in 11 days ago; 1 day has been completed so far. The result of these problems is a very sparse set of complete days of MODIS data; this makes producing 8-, 16-, and 30- day products almost impossible.

There are a number of upcoming events that affect processing. EDOS plans to install Release C4 to support multi-mission operations, and hopes to have it in place at least a month before the Aqua launch. This release should be able to handle a 3-4x processing volume. Additional hardware, better and more efficient code, and additional redundancy contribute to the improved processing capabilities. A MOSS test for Aqua is scheduled for October 17-20; this is planned to run in parallel with Terra processing. This will test Aqua processing through Level 2, read Aqua input and generate Aqua synthetic datasets. Products will need to write correct metadata files, and should use Aqua lookup tables. The deadline for Aqua Level 2 products is September 15. The DAACs will be upgrading from version 5B to Version 5.5 at about the same time the SSINTs are scheduled to go in, which may result in a very tight schedule.

For Aqua data, Goddard is responsible for AIRS, plus L1A and L1B data, plus possibly oceans processing from MODIS. Esaias noted that not all Terra oceans products can currently be inserted into the DAAC; and suggested that it would make sense to get the Terra products working before spending too much effort on Aqua products. Masuoka noted that all L1 and oceans L2 products insert into the DAAC and the L3 ocean products are being worked on. Since MODIS is the only instrument on both the Terra and Aqua platforms, it makes sense to work on demonstrating MODIS Aqua products in the MOSS test - at least Level 1 plus a representative sample of Level 2 products - to ensure that the two production streams (including separate metadata for each platform) don't step on each other. There may be a need for a tradeoff between better science and the ability for MODIS PGEs to handle AQUA data; this will be primarily a political decision.

It was noted that MODIS has more gaps than other instruments; Masuoka estimates that they will fall up to 2 months behind by December. MODIS priorities right now are to pick up the SRCA data and pick up the current week (filling in the gaps) through day 176. There may still be some gaps in that week's data after reprocessing. The password-protected MODLAND web site has information on where the gaps are; this site lags a few days behind EDOS and the Goddard DAAC because each day or week needs to be closed out before the graphic showing gaps is produced. Eric Vermote took an action item to remove password protection from the graphic.

Dorothy Hall noted that snow/ice studies she is involved in require weekly or monthly data sets; the gaps in the data mean that these data sets cannot be produced. The non-availability of weekly and monthly data sets make it impossible to determine the utility of MODIS data in producing snow/ice maps.

Steve Kempler suggests that MODIS should get higher priorities on data due to higher volume; there is a disparity between instruments in terms of complete

days processed and received. It was noted that data was being received from the spacecraft and stored on tape, but that the metric for success on EDOS's part needs to be Level 0 data delivered to the DAACs. Ed Masuoka took an action item to represent the MODIS team's concerns to EDOS, and work on a resolution. It was noted that MODIS validation granules cover about 22 out of 24 hours worth of data per day; reducing the number of validation granules might be help in the short-term.

2.3 NOAA

Bruce Ramsay, NOAA/NESDIS, gave a brief update on the NESDIS MODIS server at NASA/GSFC with information provided by Gene Legg, NOAA/NESDIS point of contact on the server: NASA/GSFC personnel are providing support in resolving system configuration and software version update issues; efforts continued to meet the 180 minute maximum processing threshold for NOAA operational requirements. B. Ramsay reported that science teams at NOAA have access to MODIS data via ftp, and are evaluating snow and ice products and algorithms; work is progressing with respect to use of the available data.

3.0 ACTION ITEMS

3.1 Action Items Carried Forward

1. Esaias: Prepare a group of charts for the next MODIS Technical Team meeting that delineates the relevant issues related to the Band 31/32 gain change and the recommendation that Tmax should be set at 340K for both bands.
2. Guenther: Circulate recommendation to Discipline Leaders on plans to flag and fill dead detectors. Responses from Discipline Leads are needed by this time next week.
3. MODIS Science Team: Send updates on MODIS metadata terms/valids to Skip Reber (reber@skip.gsfc.nasa.gov). These are terms that enable users to search MODIS data. This is part of a request to the Terra Instrument teams to update metadata terms.

Status: This action is open.

4. Discipline Leads: Send feedback to Murphy and Guenther on setting flags for dead (non-functional) detectors while they are set to zero. Currently, MCST would like MODIS Science users to provide feedback on which detectors are dead.

Status: This action is open.

5. Discipline Leads: Send MODIS Data Product table updates to Reber with a copy to Murphy. The MODIS Data Products table is on the Web at: http://eosdatainfo.gsfc.nasa.gov/eosdata/terra/modis/modis_dataprod.html

Status: This action is open.

6. Masuoka: Submit an EOS-PM Data Product Update to ESDIS.

Status: This action item remains open.

3.2 New Action Items

1. Vermote: Remove password protection from MODLAND graphic that displays gaps in MODIS data.

2. Masuoka: Represent MODIS concerns on data throughput to EDOS.