

# MODIS TECHNICAL TEAM MEETING

**June 22, 1995**

The MODIS Technical Team Meeting was chaired by Vince Salomonson. Present were Locke Stuart, Joann Harnden, Ed Masuoka, John Barker, Dorothy Hall, Bruce Guenther, Bill Barnes, David Herring, Steve Ungar, and Wayne Esaias.

## **1.0 SCHEDULE OF EVENTS**

July 17-18	MCST/SDST Peer Review at GSFC
Aug. 1 - 2	MCST Software Test Readiness Review
Sept. 6	MODIS Calibration Peer Review at SBRC
Nov. 13 - 17	MODIS Science Team Meeting at GSFC [tentative]

### 1.1 Corrections to Previous Minutes

In section 2.1.1 of the June 14, 1995, Technical Team Minutes, it was stated that the EDC and NSIDC DAACs "may be up and running earlier than planned." In fact, Barbara Putney reported the opposite--the DAACs probably will not be up earlier than planned given the potential for budget cuts. Please note this correction.

## **2.0 MINUTES OF THE MEETING**

### **2.1 MODIS Education and Outreach**

Salomonson shared a letter with the Team that he received from Peter Mougini-Mark in which he solicits input from each EOS Instrument Science Team member a short (one page) statement on how their investigation(s) contribute to the educational objectives of MTPE and EOS. Mougini-Mark asks that each team identify a person(s) willing and able to help with education and outreach efforts. Additionally, a brief description of what educational groups, if any, each team is already working with outside of the NASA research community.

Salomonson identified MAST as the principal MODIS representative responsible for the team's education and outreach. He asked Stuart, Herring, and Dave Toll to prepare a response to Mougini-Mark's request.

### **2.2 Engineering Model Test Review**

Barnes presented a list of Action Items from the SBRC EM test data review (see Attachment 1). Barnes told the team that SBRC is completing the focal plane components for the IR. He noted, however, that they are 3 months behind. Additionally, during recent tests, a bezel for the long-wave infrared focal plane assembly which included the Protoflight Model (PFM) spectral filters was scratched and is now unusable. It will take at least a month to build a replacement. Consideration is being given to using the EM bezel on the PFM.

### 2.2.1 SBRC Proposal for "MODIS-light"

Barnes reported that SBRC presented their ideas to Chris Scolese and Dick Weber (EOS AM-1 Project Head and MODIS Systems Manager, respectively) on how to build a "MODIS-light". They proposed a new scan approach, throwing away the mainframe, eliminating much of the calibration hardware, and using all of the current MODIS' aft optics. This results in a much smaller MODIS having less than half of the mass of the present version.

Barnes showed some viewgraphs generated by Esaias which compares the expected bright target recovery performance of MODIS with other Earth observing sensors (Attachment 2). He noted that MODIS is expected to exceed the performance of CZCS, SeaWiFS, and MERIS.

The Technical Team indicated an interest in inviting Steve Neeck and Paul Westmeyer back to deliver a follow-up presentation in a couple of weeks. Salomonson asked Herring to collect specific questions from MODIS Team members to forward to Neeck and Westmeyer, so that they may incorporate responses into their next presentations, tentatively scheduled for Aug. 17, 1995.

### **2.3 MCST Reports**

Guenther reported that three Science Team members were present or represented at the EM Test Data Review at SBRC: Zhengming Wan, Phil Slater, and Dan LaPort (representing Paul Menzel).

Guenther announced that Friday, June 30, is MCST's Level 1B Preliminary Design Review. On Aug. 1 - 2, SBRC will conduct a Software Test Readiness Review, which includes reviews of both flight and ground support software. There will also be a MODIS Calibration Peer Review at SBRC, conducted by SBRC, on Sept. 6.

Guenther stated that MCST is working with NOAA and looking over their shoulder as they examine problems, such as modulation transfer function, on GOES and other platforms. He said that so far their findings have left him with two major concerns for MODIS: 1) ghosting and near-field scatter, and 2) scan angle response. He added that he received agreement from Dick Weber to build a fixture to characterize MODIS as a reflectance device.

Guenther reported that Geir Kvaran, MCST's head software designer, has left MCST and that they hired Joe Covington to fill his position.

### **2.4 SDST Reports**

Masuoka said he has spoken with the Discipline Group leaders about topics SDST should cover at its upcoming Science Team Review. He added that SDST is producing a document package to send out to the Science Team reviewers.

Masuoka announced that the new Asynchronous Transfer Mode (ATM) data link between GSFC and EDC has been established. SDST has already transferred a few test files over the 45 Mbits/sec leased lines to EDC. He noted that ARPA is funding this project.

Masuoka reported that Monica Myers, of ESDIS Project, gave him a draft copy of the *EOSDIS Data Products Reference Guide*. He said she would like the MODIS Science Team to review the document and return corrections/comments/criticism to her by July 21, 1995. A copy of the *Guide* is available in MODARCH, via either EFS or ftp.

Masuoka said SDST plans to write the software utilities to aggregate 250m and 500m bands into 1km bands in time for the incorporation into version 1 software, i.e., not before September 1995. If any Science Team members need these bands aggregated up in order to make their Beta 3 software delivery, they should e-mail their needs to Masuoka as soon as possible so that SDST may begin working on the utilities.

### **2.5 Cumulus Clouds Errantly Mapped as Snow**

Hall reported that in using her Snomap algorithm to process Landsat image data, she found that the algorithm works well and does a good job of separating most clouds from snow. But when processing some image data taken over Alaska she found that Snomap mapped some cumulus clouds as snow, when there wasn't any snow under those clouds.

Salomonson suggested that perhaps Snomap was seeing some ice-containing cirrus clouds over the cumulus clouds, which may cause them to be mapped as snow.

### **2.6 MODIS Data Collection and Storage Rates**

Salomonson said EOS Project is considering relaxing the requirement of collecting and storing 95 percent of the data over two orbits to collecting and storing 95 percent of the data over the same repeat cycle. He solicited the Team's response to that idea.

Esaias responded that relaxing the requirement to 95 percent of the same repeat cycle will open the door for systematic data losses. He explained that we could lose the same piece of data and still meet the requirement while there is a gaping hole in the data over a particular area. He averred that if the requirement is to be relaxed, it should be clearly stated that there is to be NO systematic ground loss of data.

## **3.0 ACTION ITEMS**

1. *Herring & Toll*: Prepare a response to Mougini-Mark's request to provide a short (one page) statement on how each MODIS Science Team member's investigation(s) contribute to the educational objectives of MTPE and EOS.
2. *Herring*: Collect specific questions from MODIS Team members to forward to Steve Neeck and Paul Westmeyer, so that they may incorporate responses into their next presentations, tentatively scheduled for Aug. 17.
3. *Heney/Herring*: Place a copy of the *EOSDIS Data Products Reference Guide* in MODARCH and announce that it is available for review to the MODIS Team. Also, solicit comments/criticisms from the Team and forward this input to Monica Myers, ESDIS Project.

### **3.1 Action Items Carried Forward**

4. *Masuoka* : Cost out bringing up a MODIS test string in January 1996 at EDC and forward the information to Steve Kempler.
5. *Discipline Group Leaders*: Identify contacts with appropriate IDS investigators, and encourage regular interaction.
6. *MCST*: Consider Yoram Kaufman's concerns and prepare an explanation or brief presentation for the Technical Team as to which unit is best suited for MODIS' Level 1 data--radiance or reflectance.
7. *MAST*: Begin preparing the Agenda for the next MODIS Science Team Meeting--begin planning topics for 2-hour to half a day roundtable discussions and team members to moderate them. Also, allow time for a 1- to 1.5-hour Discipline Group Splinter Session on the first day.
8. *Dave Diner & Ed Masuoka*: MODIS and MISR need to settle on a protocol(s) to deal with Level 1 and Level 2 data sets to be passed between the two teams to produce joint products. Report at the next SWAMP Meeting.
9. *Guenther*: Report the modeled results of the 1,000K source for SBRC's integration and alignment collimator to the Technical Team. [These data are forthcoming.]
10. *Fleig and Ungar*: Interact with the group leaders to develop a MODIS data simulation plan for review at the next Science Team Meeting. [Work on this item is still in progress. Simulated data are now available via FTP, and a white paper is forthcoming from Fleig.]

## **4.0 ATTACHMENTS**

**NOTE: All attachments referenced below are maintained in MODARCH and are available for distribution upon request. Please contact David Herring, MAST Technical Manager, at (301) 286-9515, Code 920, NASA/Goddard Space Flight Center, Greenbelt, MD 20771 if you desire copies of any attachments.**

1. EM Test Data Review Action Items, by Bill Barnes
2. Earth Observing Sensor Comparison Charts, by Wayne Esaias

## **5.0 RECENT MODIS DOCUMENTS**

**Note: All recent MODIS documents are maintained in MODARCH. If you would like access to or information about MODARCH, please contact the MODARCH System Administrator, Michael Heney, at (301) 286-4044 or via e-mail at [mheney@ltpmail.gsfc.nasa.gov](mailto:mheney@ltpmail.gsfc.nasa.gov).**

*EOSDIS Data Products Reference Guide* , by ESDIS Project