

MODIS TECHNICAL TEAM MEETING

October 6, 1994

The MODIS Technical Team Meeting was chaired by Vince Salomonson. Present were John Bauernschub, Mike Roberto, Bill Barnes, Harry Montgomery, Ed Masuoka, Bruce Guenther, Steve Ungar, Dorothy Hall, John Barker, David Herring, Yoram Kaufman, and Locke Stuart.

1.0 SCHEDULE OF EVENTS

Oct. 15 Quarterly Technical Report for July-Sept. due to Barbara Conboy

2.0 MINUTES OF THE MEETING

2.1 General Discussions

Salomonson reported that he had a productive and informative meeting with Aram Mika and George Speak, of Hughes. The ramifications of the SBRC Systems Division move to El Segundo, CA, insofar as MODIS is concerned, were discussed. Hughes/SBRC reflected every intention of minimizing any disruptions to the MODIS effort.

2.1.1 Additional Team Meetings

Salomonson said he is considering different ways to structure the MODIS Science Team meetings. This may involve additional team or discipline group meetings spaced interstitially with the general science team meetings to specifically discuss algorithm development and production. This will be considered further during the upcoming MODIS Science Team meeting.

2.1.2 The Sun as a Calibration Source

Kaufman asked why MODIS doesn't use the sun as a calibration source. Montgomery responded that MCST's objective is to calibrate the instrument to temperatures up to 500K, and since the sun is about 6,000K it is off the scale.

Kaufman pointed out that NASA Ames engineers use a partial aperture mesh for looking at the sun and separating incoming solar radiation for calibration purposes. Guenther responded that SBRC also has an approach for looking at the sun, but MCST has not yet evaluated it; when they do they will report their findings to the MODIS Team. Moreover, Montgomery stated that he can demonstrate that MCST can meet the calibration specification without looking at the sun. According to Kaufman, the NASA Ames engineers feel that it is necessary to view the sun to achieve the most precise calibration.

Additionally, Guenther stated that MCST would like to look at the sun with the MODIS instrument during testing, but due to concerns about contamination that test might not occur.

2.1 Relief Requested for Nine MODIS Bands

Barnes reported that SBRC is slightly over spectral specifications on nine of MODIS' bands in the VIS and NIR regions of the spectrum. Subsequently, they have requested relief in the specifications for the filters for those bands. Barnes showed a viewgraph summarizing SBRC's request (Attachment 1). He feels that the deviation from the specification is so small as to be trivial and recommends relaxing the specs as requested. Tom Pagano, SBRC, will address the topic at the MODIS Science Team Meeting.

2.2 MODIS Project Reports

Bauernschub announced that performance evaluation for the SBRC MODIS effort will be conducted on Tuesday, Oct. 11. The Board will meet on Tuesday to discuss the Performance Verification Plan Specifications. On Oct. 17 and 18, Dick Weber and Ken Anderson will travel to SBRC to discuss the Specifications.

Bauernschub reported that the waiver for the SBRC-requested filter deviations is going through the Configuration Control Board's approval process.

2.3 Level 1B Calibration ATBD Update

Montgomery reported that Peter Abel and he have been working on the Level 1B Calibration ATBD and now have a comprehensive understanding of how the algorithm will work. They are prepared to present their plans to the Calibration Working Group on Tuesday, Oct. 11.

2.4 Lunar Calibration

Barker reminded the Team that if MODIS is to have lunar calibration capabilities, the time to prepare requirements is now. Barnes added that a memo from Salomonson to the AM and PM Projects is forthcoming; the memo will explain MODIS' requirements and why we need lunar calibration.

Barker estimates that MODIS' lunar calibration algorithm will have about 16 percent error at launch, and as MCST begins verifying data, they will reduce the error to less than 1 percent within 5 years after launch.

2.5 Unofficial Summary of Simulated Data Workshop

Ungar reported that the MODIS Simulated Data Workshop at Flathead Lake, MT, went well—all groups were well represented. SDST now has a representative set of MODIS data products for which they will need simulated

products. Ungar explained that simulated products are needed to test inputs and outputs of the MODIS algorithms.

Ungar said that personnel from Photon Research Associates attended the workshop. They have renamed their GCI Toolkit, "MCST Toolkit". The new version will be delivered in about 2 weeks.

2.5.1 MAS Data Implemented into Goddard DAAC

Ungar reported that at the recent Goddard DAAC Science Users Group Meeting, the MODIS Airborne Simulator (MAS) data were selected as the next data set to be implemented.

2.6 Scattered Light Effects in MODIS

Guenther reported that Breault Research, in Tucson, is studying the effects of scattered light in MODIS, the early results of which will soon be available. Phil Slater and Gerry Godden met recently to discuss the issue. Guenther stated that the Calibration ATBD review and scattered light are his two largest areas of concern.

2.7 SDST Reports

Masuoka reported that he has been asked to review progress in software development with Chris Scolese in early November and Dixon Butler in December.

Masuoka stated that he decided to hold off on discussing ancillary data sets until the upcoming Science Team Meeting. At the meeting he plans to ask the Team what data sets they need to produce their products, and when they need them.

Masuoka announced that SDST is in the process of changing contractors from Hughes STX to General Science Corporation (GSC). Unfortunately, he said, the Hughes STX personnel responsible for system engineering won't be continuing on with MODIS.

2.8 SCAR Campaign is a Success

Kaufman reported that his Smoke, Clouds, and Radiation (SCAR) campaign for measuring wildfires was a success. The campaign was based in California, but there were flights over Washington, Oregon, and Idaho, as well.

3.0 ACTION ITEMS

3.1 Action Items Carried Forward

1. *MODIS Team*: Determine how, given the MODIS bowtie effect, MODIS images will be produced at launch.
2. *Fleig and Ungar*: Interact with the group leaders prior to develop a MODIS data simulation plan for review at the next Science Team Meeting.

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. "Summary of SBIR Requested Deviations in Spectral Response for MODIS PFM," by Bill Barnes